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BUDGE

A.F. Budge (Mining) Limited

(602) 945-4630

4301 North 75th Street
Suite 105
Scottsdale. AZ 85251-3504

FAX (602) 949-1737

October 23, 1990

State of Arizona
Department of Environmental Quality
Office of Water Quality
Compliance Section
2005 North Central Avenue
Phoenix, Arizona 85004

3rd Quarter Report - 1990
Permit: G-0090-07 Vulture Mine

All information contained in this report to the Department of Environmental Quality is to be considered confidential.

During the period July 1, 1990 to September 30, 1990, barren solution and fresh water were applied to the heaps. The fresh (well) water has been sprayed on sections of the heap only where solutions from those sections have been observed in the leak detection system, and in quantities as to not upset the water balance. Solution in the leak detection system has been observed intermittently, with flow rates varying from 15 to 50 ml per minute; the solution contains 0.3 pounds/ton free cyanide. On October 1st solution will be discontinued to the heaps and natural degragation allowed to occur. Heaps will be sampled during the first quarter of 1991.

Well totalizer reading on July 1,1990 was 22,442,100, on October 1, 1990, 22,220,600. Total water usage for the quarter was 4,828,500, or approximately 14.8 acre feet. This equates to approximately 36 g.p.m.

Respectfully submitted,

Dale H. Allen
Production Manager

DIRECTORS: A.F. Budge, O.B.E., C. Eng., F.I.C.E., F.I.H.T.; Mrs J. Budge; 7602 Clearwater Parkway, Paradise Valley, AZ 85253

A.F. BUDGE (MINING) LIMITED — VULTURE MINE

ASSAYS

DATE	SAMPLE	Au PPM	Au oz/t	NaCN lb/t	pH	REMARKS
16 Jul	#1	.98		.3	8.53	35 ml
	#2	Down		"	Down	
17 Jul	#1	.95		.3	8.57	35
	#2	Down		Down		
18 Jul	#1	1.05		.3	8.37	35
19 Jul	#1	.85		.3	8.45	36
30 Jul	#1	1.01		.4	8.97	45 ml
"	#2	.30		.3	9.02	20 ml
31 Jul	#1	1.06		.4	9.06	42 ml
"	#2	.29		.3	9.16	22 ml
1 Aug	#1	.99		.3	8.85	40 ml
"	#2	.26		.3	9.16	20 ml
2 Aug	#1	1.06		.3	8.92	42 ml
"	#2	.32		.3	8.99	19 ml
6 Aug	#1	1.13		.5	9.16	50 ml
"	#2	.38		.4	8.91	18 ml
7 Aug	#1	1.05		.3	8.73	48 ml
"	#2	.35		.3	8.87	18 ml
8 Aug	#1	1.09		.3	8.81	51 ml
"	#2	.30		.3	8.90	20 ml
13 Aug	#1	1.42		.4	9.10	48 ml
"	#2	.23		.4	8.93	17 "
21 Aug	#1	1.04		.4	8.91	45 ml
	#2	.20		.3	9.02	18 "
22 Aug	#1	1.24		.3	8.95	40 ml
23	#2	.25		.3	9.10	18 ml
23 Aug	#1	1.18		.3	8.90	45 ml
"	#2	.22		.3	9.05	17 ml
27 Aug	#1	1.30		.3	8.89	52 ml
"	#2	.29		.4	8.65	20 ml
28 Aug	#1	1.15		.3	8.78	48 ml
"	#2	.26		.3	8.91	18 ml
29 Aug	#1	1.10		.3	9.01	46 ml
"	#2	.28		.3	8.79	22 ml
4 Sept	#1	1.08		.3	9.25	45 ml
"	#2	Down	—	—	—	—
5 Sept	#1	1.10		.2	9.18	45 ml
"	#2	Down	—	—	—	—
6 Sept	#1	1.03		.2	9.22	40 ml
"	#2	Down	—	—	—	—
10 Sept	#1	1.27		.3	9.15	50 ml
"	#2	Down	—	—	—	—

PPM Au × 0.029 = oz/t

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

A.F. BUDGE (MINING) LIMITED — VULTURE MINE

ASSAYS

DATE	SAMPLE	Au		NaCN	pH	REMARKS
		PPM	oz/t	lb/t		
11 Sept	#1	1.30		.3	9.28	48 ml
"	#2	Down	—	—	—	—
12 Sept	1	1.18		.3	9.18	45 ml
"	2	Down	—	—	—	—
13 Sept	1	1.15		.3	9.20	50 ml
	2	Down				
17 Sept	#1	.98		.3	8.90	42 ml
"	#2	Down	—	—	—	—
18 Sept.	#1	1.01		.3	8.85	40 ml
	2	Down				
19 Sept	#1	.89		.3	8.86	36 ml
	2	Down				
20 Sept	#1	.85		.3	8.80	24 ml
	#2	Down				
24 Sept	#1	1.45		.3	8.57	50 ml
	#2	Down				
25 Sept	#1	1.09		.3	8.60	46 ml
	#2	Down				
26 Sept	#1	.98		.3	8.59	46 ml
	#2	Down				
27 Sept	#1	.85		.3	8.71	35 ml
"	#2	.53		.2	8.75	10 ml

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

SPM
A member of the Orion Group
Sierra Precious Metals, Inc.
462 Dunn Circle
Sparks, NV 89431
Tel. (702) 358-4317
(702) 358-9229
FAX (702) 358-9275

FAX MESSAGE

TO: CAROLE O'BRIEN / DALE ALLEN
FROM: HARALD V/ZIPPRICH

DATE: 01.17.90
FAX #: 602.948.7737
PAGE: 1 TO 4

RE: VULTURE PLANT VISIT.

Hi,

Please find attached a copy of my report including valuation and location plan. Please correct any inaccuracies you may find, but my shorthand in my notebook was as brief as my discussion with Dale.

If you have any questions with regard to this report, please do not hesitate to call me.

Regards.

Harald.

A member of the Orion Group

SPM

Sierra Precious Metals, Inc.

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FAX (702) 358-9275

REPORT ON THE VISIT TO THE VULTURE MINE ARIZONA 12/18/89

1.00. LOCATION. Approximately 20 miles south west of Wickenburg.

2.00. PROPERTY. Mining lease currently held by Budge Mining Inc who have been processing the old tailing dumps by heap leach.Leaching has however been completed,plant shutdown expected by March 1990.Several mining companies have investigated the underground potential of the mine but have failed to prove up sufficient reserves to justify reopening the mine.Budge have intimated that they will put the property up for sale when leaching is completed.

3.00. INTRODUCTION. Resulting from a visit to the mine by staff of GD Resources Inc.,S.P.M Inc.was invited to visit the property and investigate the potential of a plant clean-up.The property was visited on 7th & 8th Dec 1989.

4.00. INVESTIGATIONS.

01. MILL SITE. The present mill was erected in approx.1932 and operated until 1946 when it was shut down for the war effort.This mill appears to have been errected on some of the older stamp mill foundation which abound in the area.Exsisting structures consist of: 6 bin crusher base and concrete foundations,mill building and concrete bases,amalgamation section including old amalgam barrel,filtration and precipitation building containing two old filter tanks and recieving tank, smelt house and strong room.Along the east and south sides of the plant remnants of the old thickener and cyanide leach tank can be seen.

The old generator and compressor house near the mill building is currently being used as a storeroom. Several ruins ie. offices,messhall,assay office etc. are being used as tourist attractions by the locals.

02. INCLINED SHAFT. Reports indicate that the shaft was being used by hi-graders until approx. 1946,and again in the early 1950s.The shaft appears to be in reasonable condition,with access reportedly available to the 600 ft. level.To the east and south of the shaft can be seen the old remnants and foundations of stamp-mills, however most of these have been badly damaged or covered in mill tailings. Two samples were collected.

collected../cont.

03. OPEN CAST WORKINGS. Between 1932 and 1946 a considerable tonnage of ore was mined from open pits along the vein outcrop.Several of the older underground workings were intersected.Most of these connections have subsequently caved.The pits around the shaft area are in dangerous condition.

5.00 SAMPLING LOCATIONS & RESULTS.

SAMPLE #	TYPE	LOCATION	OPT. AU.	OPT. AG
VM 1	slime	crusher sumps	0.603	0.29
" 2	rock	crusher ramp	0.039	-0.10
" 3	concrete	smlt hse floor west	0.029	-0.10
" 4	concrete	smlt hse floor east	0.041	-0.10
" 5	fines	crack precip room	0.218	0.37
" 6	slimes	sump precip room	0.202	0.50
" 7	rust	filtrate tank	0.190	2.55
" 8	rust	clarifier tanks	1.571	11.02
" 9	concrete	?? foundations	0.440	-0.10
" 10	concrete	mill hse floor west	0.089	0.13
" 11	scale	mill hse floor	LOST SAMPLE	
" 12	concrete	mill foundation	0.492	-0.10
" 13	fines	mill hse drain	1.388	1.76
" 14	ore	mill bins	0.056	0.20
" 15	concrete	mill sump	0.310	0.11
" 16	concrete	mill hse floor east	0.187	0.22
" 17	rust	mill hse tanks	1.308	0.97
" 18	fines	amalgam hse floor	0.110	0.16
" 19	concrete	amalgam foundations	0.301	0.38
" 20	fines	amalgam hse drain	0.376	1.33
" 21	rust	#2 & 3 thickeners	0.092	0.33
" 22	rust	#4 & 5 thickeners	1.772	0.37
" 23	rock	crusher spillage	0.049	0.11
" 24	metallics	old stamp foundations	0.380	0.14
" 25	concrete	old stamp foundations	0.069	-0.10

6.00. SKETCH. See sketch for sample reference.

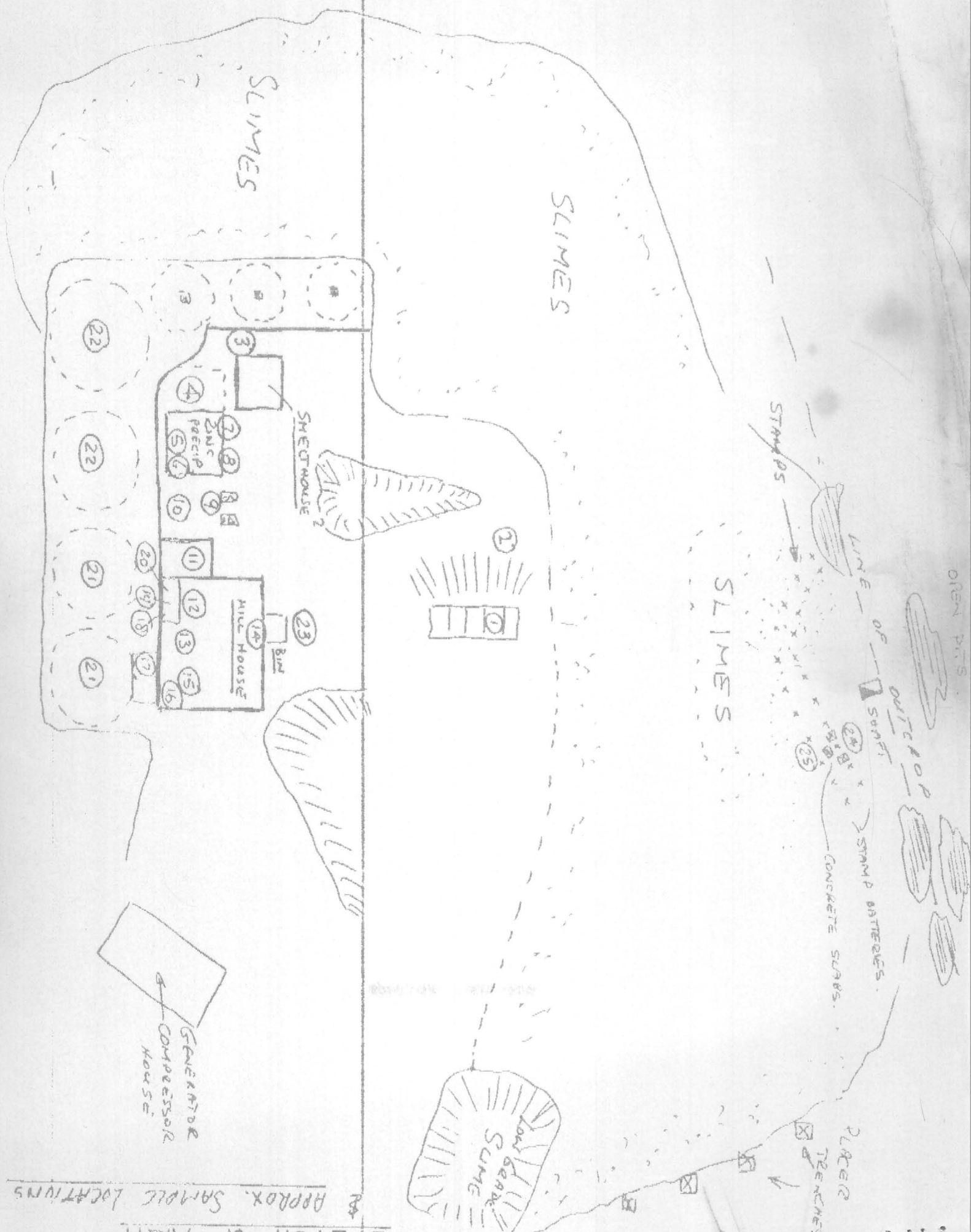
7.00. OBSERVATIONS. Generally the buildings are in poor shape and most of the equipment has been salvaged and removed. In many places it appears as if some effort has been made to carry out a clean up.

Generally all the rust and scale sampled appear to carry good gold and silver values. Unfortunately the volume of material is limited and would not justify processing.

8.00. CONCLUSION. It is estimated that approximately 51 tons of concrete, fines and rust could be collected from the area which could contain nearly 25 oz. gold.

Due to the relatively small tonnage and gold content S.P.M. Inc. does not intend to pursue this property.

H.V.Zipprich



SKETCH OF AREA
& APPROX. SAMPLE LOCATIONS

M E M O

TO: Dale Allen, Carole O'Brien, Ron Short, Anthony Budge

FROM: Don White

DATE: October 25, 1988

SUBJECT: Vulture Tailings Excavation Blocks

Dale requested I tally reserves of Vulture stamp mill tailings by six large blocks corresponding to his anticipated excavation sequence. This provides him with subtotals against which he may compare measured tons (based on scraper loads) and recovered ounces (based on bullion pours).

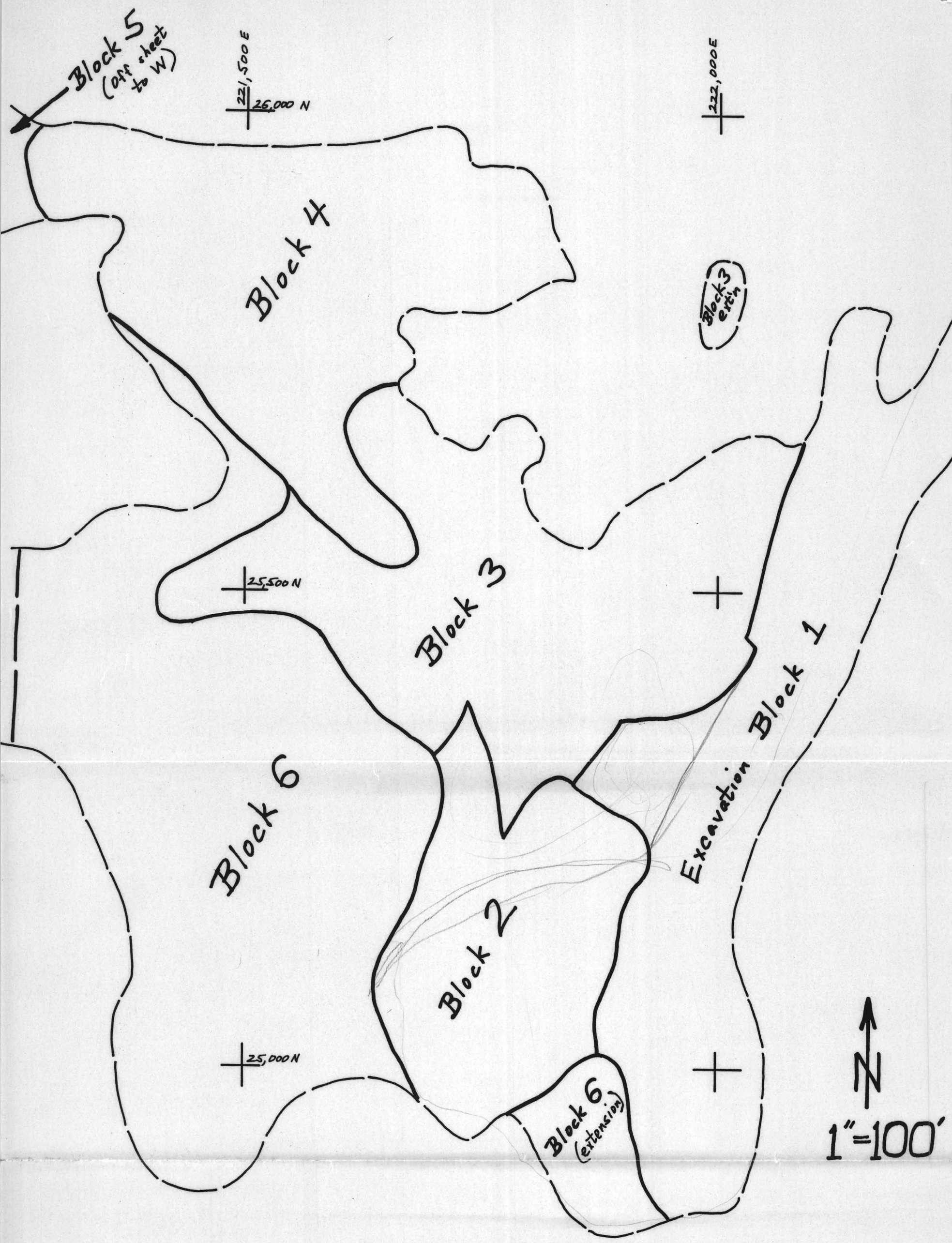
All that was involved is recombining the reserve blocks (my memo and maps of July 8, 1988) according to location within the newly defined excavation blocks (plan accompanying). The computations are appended and the totals are summarized as follows:

VULTURE TAILINGS

Summary of excavation blocks

(after discounting 10% for surface erosion)

Excavation block #	Cubic yards	Short tons	Grade (oz/t)	Contained oz Au
1	27,300	44,000	.041	1,800
2	10,600	17,000	.030	500
3	37,700	61,000	.032	2,000
4	49,300	80,000	.040	3,200
5	7,700	13,000	.038	500
Subtotal, First 5 blocks (≥.020 oz/t)	132,000yd^3	215,000 s.t.	.037 oz/t	8,000 oz Au
Low grade block 6	94,000yd^3	150,000 s.t.	.014 oz/t	2,000 oz Au
Grand Total including low grade	226,000yd^3	365,000 s.t.	.027 oz/t	10,000 oz Au



Vulture Tailings Excavation Blocks

(Intended as an overlay to the reserve block plan)

Don C. White- Oct., 1988

Tabulation of Vulture Tailings Reserve Blocks by Excavation Blocks

Don C. White - Oct. 1988

Reserve Block #	Au Grade (oz/t)	Thickness (ft)	Area (ft²)	Cubic Yards (÷ 9/27)	Short Tons (Yd³ x 1.62 s.t./yd³)	Contained oz. Au
32	.032	5	15,600	2,889	4,680	150
33	.031	2	10,500	778	1,260	39
18	.044	5	26,600	4926	8,029	353
6	.053	7	3,500	907	1,470	78
5	.053	9	12,000	4,000	6,480	343
16	.047	8	16,300	4,830	7,824	368
19	.041	4	10,500	1,556	2,520	103
7	.053	6	6,300	1,400	2,268	120
30	.037	11	4,400	1,793	2,904	107
29	.034	6	20,200	4,489	7,272	247
44	.024	6	12,700	2,822	4,572	110
Excavation Block 1	.041	—	—	30,390	49,279	2,018
17	.040	4	7,600	1,126	1,824	73
28	.035	3	37,400	4,156	6,732	236
42	.024	7	19,800	5,133	8,316	200
43	.029	4	9,100	1,348	2,184	63
Excavation Block 2	.030	—	—	11,763	19,056	572
46	.028	1	3,600	133	216	6
45	.022	3	22,400	2,489	4,032	89
31	.035	3	9,000	1,000	1,620	57
15	.040	4	11,200	1,659	2,688	108
4	.055	4	2,900	430	696	38
27	.034	4	4,700	696	1,128	38
14	.042	8	8,600	2,548	4,128	173
13	.042	12	5,500	2,444	3,960	166
26	.035	8	24,500	7,259	11,760	412
25	.037	13	20,900	10,063	16,302	603
41	.020	14	5,400	2,800	4,536	91
40	.024	16	15,000	8,889	14,400	346
39	.026	6	6,500	1,444	2,340	61
Excavation Block 3	.032	—	—	41,854	67,806	2,188

Reserve Block #	Au Grade (oz/t)	Thickness (ft)	Area (ft^2)	Cubic Yards (ft³/27)	Short Tons (ft³ x 1.62 st/ft³)	Contained oz, Au
24	.034	17	17,900	11,270	18,258	621
38	.022	17	3,800	2,393	3,876	85
11	.044	17	20,000	12,593	20,400	898
3	.051	17	4,700	2,959	4,794	244
2	.053	22	5,500	4,481	7,260	385
9	.044	22	3,300	2,689	4,356	192
10	.045	22	3,200	2,607	4,224	190
8	.044	17	2,100	1,322	2,142	94
23	.031	12	4,400	1,956	3,168	98
21	.035	5	8,800	1,630	2,640	92
35	.021	9	2,000	667	1,080	23
34	.023	2	7,200	533	864	20
12	.042	12	12,700	5,644	9,144	384
22	.034	7	11,200	2,903	4,704	160
36	.026	8	2,400	711	1,152	30
37	.024	3	4,200	467	756	18
Excavation Block 4	.040	—	—	54,825	88,818	3,534
1	.073	3	4,200	467	757	55
Add-on*	.036	2	110,000	8,148	13,200	475
Excavation Block 5	.038	—	—	8,615	13,957	525
Excavation Block 6+	.014	15	170,000	94,000	150,000	2,100

* "Add-on" = Area of yellow, stamp mill tailing to N.W. of main body (W of old mill site) found in August, 1988 (subsequent to July, 1988 reserve memo)

\+ Block 6 is the low grade, partially cyanide tails bounding the SW side of the stamp mill tails. They may be economic

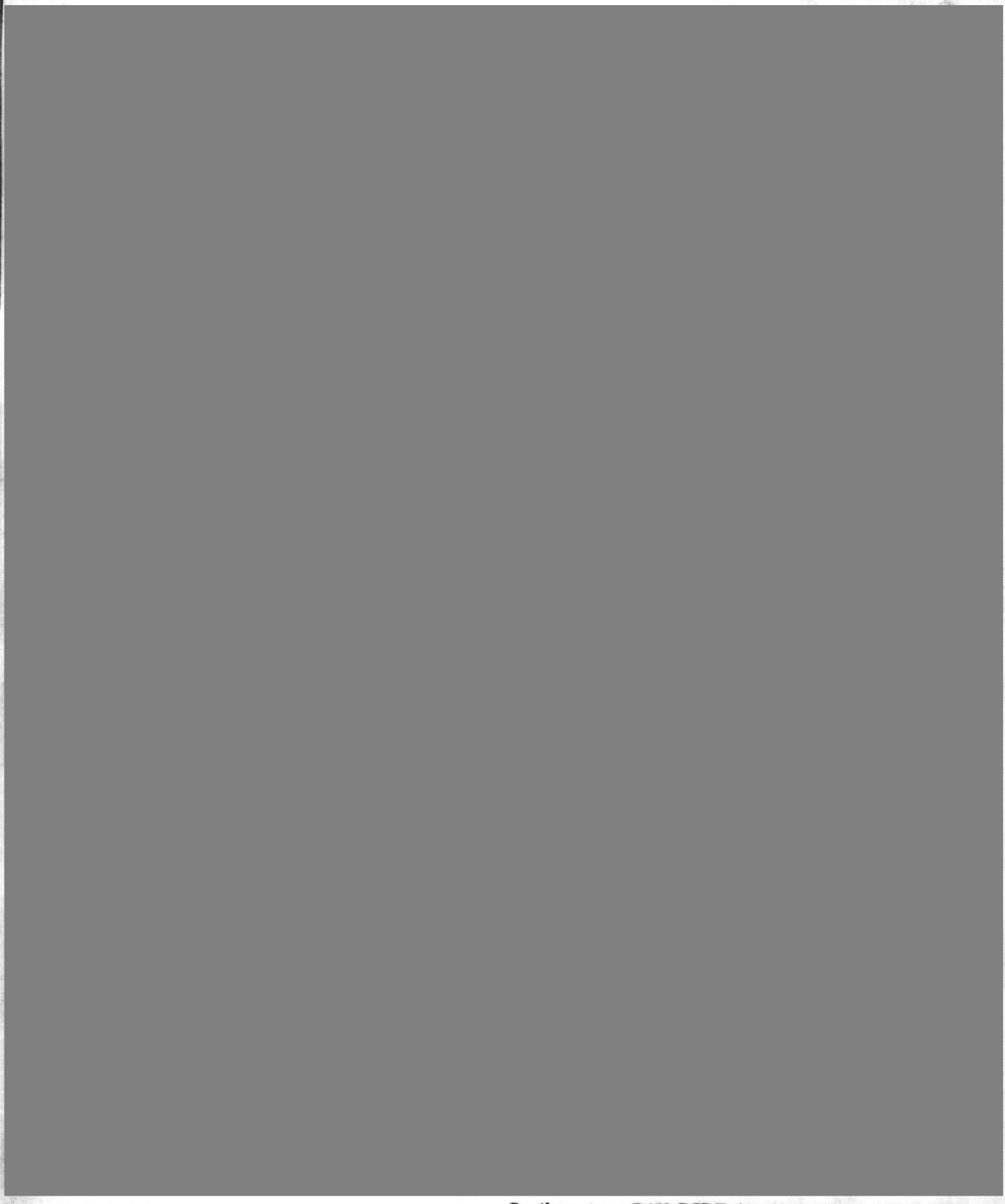
VULTURE MINE PROJECT
Placer Sample Locations 12/27/84 MH

Trench No.	North	East	Area	Sample Nos.
T-1	25,900	22,955	N. of Gate	1/1/1-3,1/2/1-2
2	25,980	23,040	" " "	2/1/1-2
3	25,635	22,120	Tailings Pond	3/1/1-2,3/2/1
4	25,600	21,885	" "	4/1/1-2,4/2/1
5	28,625	23,480	Airstrip-W	5/1/1-3
6	28,735	22,330	" "	6/1/1-2
7	29,160	24,475	" E	7/1/1-3
8	26,965	20,865	DzCut NW of Pits	8/1/1-3
9	27,925	21,090	Wash NW of Pits	9/1/1
10	27,860	20,955	W. of No. 9	10/1/1
11	27,220	20,875	S. of No. 12	11/1/1-3
12	27,480	20,780	S. of No. 10	12/1/1-3
13	25,775	22,885	Placer Tails E. of 2/1/1-2	13/1/1
14	26,335	23,400	E. of Entry Rd.	14/1/1
15	25,455	20,200	W. of Cyanide Mill	15/1/1-2
16	25,675	19,635	W. of No. 15	16/1/1-2

Drill Holes

H-19	0-5,5-10,10-15 15-20
H-21	0-5,5-10
H-31	0-5,5-10 10-15,15-20
H-34	10-15,15-20

Budge Mining preparing to reprocess tailings at Vulture mine



M E M O

TO: Carole A. O'Brien, A.F. Budge, R.R. Short, D.A. Allen

FROM: Don C. White

DATE: October 17, 1988

SUBJECT: Confirmation of Vulture age dating, and its significance

We have some results back from the U.S.G.S. indicating that our theories on the origin of the Vulture are right on the mark. You'll recall that the key dispute has been between those that believe the Vulture lode is a Precambrian sygenetic gold occurrence and those including Bob Hodder, Steve Reynolds and myself that believe it is epigenetic and early Laramide. (Stan Keith and Bill Rehrig concur with the epigenetic interpretation but have varied on age estimates.)

First we acquired our own age dating in mid 1987 which was a Rb-Sr whole rock/muscovite separate date on the Vulture stock. That came in at 85 ± 3 m.y., or early Laramide. That was enough to convince me, for one can walk out the physical tie from the stock to the sill and the quartz veins, with successively more gold in each. Also the small mineralized quartz veins within the core of the stock are identical to those of the Vulture lode. But still we had doubters.

Ed DeWitt of the U.S.G.S. has dated two samples that clinch up the argument. He has an Ar/Ar date on the Vulture stock that confirms our Rb/Sr date. His is about 90 m.y. He also sampled a zenolith within the quartz porphyry sill. That would have to be a fragment of Precambrian wall rock caught up in the plutonic sill. Its Ar/Ar age is also about 90 m.y. as expected of a baked fragment with an effectively reset Argon clock. So we now have an 85-90 million year age on both the stock and the sill and by two isotopic methods.

This all means that the epigenetic theories we have used to postulate other Vulture-like occurrences are indeed valid. Ron and I have talked (the morning of Oct. 5th) about how to pursue exploration for "other Vultures"; where, how, risks, incentives, and costs. He did not seem very impressed and has stated that it shall not be done under his management which effectively kills it for Budge. That is because the tailings leaching will likely be completed by early 1990 and the lease from Beal terminated.

I believe the exploration for "other Vultures", deposits of 350,000 ounces of gold occurring as 0.35 oz/t coarse gold in quartz, beneath shallow (stripable) cover of alluvium, constitute such a lucrative target that the opportunity should not be passed up. Of course it's an expensive geophysical and drilling program to test such targets and a long shot of finding one but it's very unlikely that Vulture was one-of-a-kind. I hope to be involved whenever someone else decides it is worth a shot.

It should be stressed that this epigenetic origin for the Vulture in no way changes the merits of Stan Holmes' case for going after the possible fault extension. He happens to believe in the Precambrian syngenetic interpretation for the Vulture but the target he's interested in is strictly a structural one. He should be encouraged to get on with his venture as soon as possible in

Budge's interest though I understand he's intimidated, and rightfully so, by the 6% NSR royalty to Beal coupled with any sharing required by Budge. We're talking a deep (several 1,200-foot holes) core drilling proposition with any find requiring new shaft sinking and expensive, underground, narrow-vein mining. Chances are he and Stan West's stockholders would be better off waiting for Budge's lease to terminate and picking it up themselves with better terms and no joint venture.

That really leaves little more than the small placer potential to be tested. I have summarized that in a separate memo.

DW:sk

M E M O

TO: R.R. Short, C.A. O'Brien, A.F. Budge, D.A. Allen

FROM: Don White

DATE: October 18, 1988

SUBJECT: Vulture placer gold potential and recommendations

Nearly four years ago (Dec. 1984) Jim Prudden conducted a placer exploration and testing program at the Vulture property.(1) His trenches, cut with a large backhoe, surrounded the lode area and channels of gravels cut from those trenches were run through a pilot plant.

Prudden's findings are summarized:

1) Most of the areas trenched are clearly subeconomic.

2) One area just south of Vulture ridge contains potentially economic grades averaging 0.5 g/yd^3. We call this Vulture South.

3) Vulture South was tested by only two trenches. The 0.5 g/yd^3 grade is the average of channels on opposite sides of the basal 5 feet of one trench, down to bedrock. The other trench did not reach bedrock, only caliche-cemented "false bedrock" but exhibited gold buildups at depth which are extrapolated to be akin to the 0.5 g/yd^3 trench. The upper 5 feet of alluvium in each trench was uneconomic.

4) The gold of the two Vulture South trenches (trenches 3 and 4) is about equally divided between very fine gold and small nuggets.

5) The gold is juvenile. It is angular, dendritic, often adhering to quartz or even containing galena or pyrite as is its association at the Vulture. Hence its likely provenance is the Vulture lode.

6) A roughly 15-acre area nearly corresponding to the stamp mill tailings now being excavated could average the 0.5 g/yd^3 found in the basal 5 feet of one trench. If so, reserves of 5-foot thickness would be 120,000 yd^3.

If Prudden's estimates of 120,000 yd^3 of 0.5 g/yd^3 are accurate, then the Vulture South zone contains about 2,000 ounces of gold at a 1:1 stripping ratio (after the tailings are removed). Getting at that placer gold seems to have certain advantages and disadvantages:

ADVANTAGES

1) Good grade; 0.5 g/yd^3

(1) Prudden, James M. 1985; Preliminary evaluation of the Vulture Mine placer potential, Maricopa Co., Arizona. Unpublished report to Ben Dickerson/A.F. Budge, Jan. 23, 1985, 36 p plus appendices.

2) Patented land; Beal lease and Vulture townsite owned by Budge.

3) Low stripping ratio; 1:1.

4) Already disturbed area beneath the tailings excavation.

5) No large boulders.

6) Good access.

7) Process water availability; present well production about 65 gpm less heap leach needs about 40 gpm leaves 25 gpm for placer makeup water.

KNOWN DISADVANTAGES

1) 120,000 yd^3 or 2,000 contained ounces is not a large enough reserve to amortize a plant and equipment.

2) There is a certain erracticness of values in immature desert alluvium that makes any sampling and evaluation risky. Actual grades overall may be better or worse.

3) The abundant hard caliche beds may present excavation problems and recovery problems if it can not be broken down in a trommel and with high pressure water.

4) Because of peculiarities of the lease, placer "mining" may introduce royalty or "production bonus" problems into the equation with Beal and not be worth the effort/expense.

Under the circumstances I recommend consideration be given to farming out the placer of Vulture South. A small, experienced contractor with his own placer equipment ought to be able to have at it and determine in short order whether it's worthwhile or not. If not, he's on his way soon. If so, he could operate only on non-Beal lands of the townsite or arrangement could be made to placer both properties.

A contractor would be well advised to test the area with backhoe trenches, running the entire contents of each trench through the plant. Such sample sizes should help alleviate the nugget effect and intrinsic erraticness of the desert placers. Such full scale testing would also provide the operators a chance to experiment with their recovery system.

A modest sized plant at 100 yd^3/hour capacity could complete the entire 120,000 yd^3 project in less than six months, one shift, five days per week.

If and when such a farm-out should be considered, I shall be happy to querry the few operators and equipment owners I know as to their interest.

DW:sk

M E M O

TO: Dale Allen
cc: C.A. O'Brien, R.R. Short, A.F. Budge

FROM: Don White

DATE: October 21, 1988

SUBJECT: Silver distribution in Vulture stamp mill tailings

In response to your request for information on silver in the Vulture stamp mill tailings, I was able to dig up old, uncompiled, silver assays from the initial round of sampling in earliest 1984. That was power-auger drilling of the tailings by Milt Hood, prior to my involvement in any way. Silver was reported by Iron King Assay, Inc. with a detection limit of 0.01 oz/t Ag. It was assayed for every 5-foot interval of 57 holes drilled.

I have averaged those assays for each hole and plotted that data on the same 1"=100' base as the gold data that you have. Attached is a contoured version of the silver data which reveals a strong zonation of higher grade Ag to the east, grading to the detection limit westward into the cyanide tailings.

There is some reason to doubt the accuracy of the assays since your head assays on tails excavated near the east perimeter the last month or more have often assayed 0.2 oz/t Ag or even greater. As you pointed out, Ag fire assays where the main objective is accurate gold assay, are notoriously inaccurate. But they are off in a systematic way and the pattern of relative grades is useful.

What the plan reveals is that your first cut along the east perimeter is the highest silver zone and that all heads will diminish in silver content as excavation proceeds westward. It also shows that the lowest gold zones (<.02 oz/t Au) of the cyanide tailings are also very low in Ag (probably all < .05 oz/t Ag).

DW:sk

W. Incline Shaft

Chute

pre bin

22,500

26,000

Old Mill

Assay Office

Mess Hall

Shops

Bunk Hs.

Apts.

22,000

54 40 .09

55 18 .04

53 13 .07

52 17 .07

1 25 .06

4 12 .03

2 20 .05

7 18 .07

49 1 .01

3 17 .02

51 17 .08

8 13 .03

5 17 .04

50 9 .13

48 4 .19

46 20 .16

9 12 .04

6 17 .04

.05

47 7 .13

45 4 .05

10 7 .05

25,500

21 14 .07

43 3 .03

11 4 .13

.10

20 9 .09

22 17 .03

56 17 <.01

57 17 .02

12 3 .12

44 7 .16

.15

23 14 .07

24 17 <.01

25 17 .04

13 12 .11

19 7 .06

27 17 .02

29 17 .01

14 9 .12

18 4 .08

26 9 .04

28 15 <.01

30 8 .02

15 7 .15

17 4 <.01

31 13 .01

32 3 .09

16 11 .07

36 4 .01

.05

33 3 <.01

.10

37 8 .10

34 3 .04

.05

25,000

35 4 .07

39 3 .02

42 4 .18

.20

38 8 .08

40 8 .04

41 8 .25

Pegasus ~2,000 s.t. heap

H_2O

of tailings ≥ 1 ft. thick

Approx. limit

N

1" = 100'

LEGEND

- ≥ .20 oz/t Ag
- .15 - .19
- .10 - .14
- .05 - .09
- < .05 oz/t Ag

Vulture Mine Road

Vulture Tailings

Contoured Silver Grades

< .05 oz/t thru > .20 oz/t by .05 oz/t

Don C. White - Oct., 1988

Power auger hole number (White's hand auger holes not shown, & not assayed for Ag)

Tailings thickness (ft) – 11 23 .05 — Silver grade (oz/t)

Iron King Assays of Milt Hood samples, 1984

Dale-
FYI
Will send more later
-Carole.

GROUNDWATER QUALITY PROTECTION
PERMIT NO. G-0090-07

STATE OF ARIZONA

GROUNDWATER QUALITY PROTECTION PERMIT

Part I. AUTHORIZATION FOR FACILITY OPERATION SUCH THAT GROUNDWATER QUALITY OF THE STATE OF ARIZONA IS NOT ADVERSELY IMPACTED.

In compliance with the provisions of A.R.S. 36-1851 et seq; A.A.C. Title 9, Chapter 20, Article 2; A.A.C. Title 9, Chapter 21, Article 4; and conditions set forth in this permit:

Facility Name: Vulture Mine

Owner: Vulture Mine Properties Inc.
Larry Beal, President
1414 E. Purdue
Phoenix, Arizona 85020

Operator: Carole A. O'Brien
A. F. Budge Mining Limited
7340 E. Shoeman Lane
Suite 111 "B" (E)
Scottsdale, Arizona 85251-3335

is authorized to operate the Vulture Mine-Heap Leaching facility located 12 miles Southwest of Wickenburg, Arizona in Maricopa County over groundwaters of the Phoenix Active Management Area in Township 6 North; Range 6 West; Section 36, SE 1/4 - Gila and Salt River Base Line and Meridian.

This permit shall become effective on the date of signature and shall be valid for the operational life of the facility provided that the facility is operated and maintained in compliance with the specific conditions, general conditions, and information documented or referenced in Parts I, II, III and IV of this Permit and such that groundwater quality standards are not violated (Part V).

DRAFT FOR REVIEW AND DISCUSSION

Carole A. O'Brien, Operator
A. F. Budge Mining Limited

Signed this ____ day of

_____ 19 ___

DRAFT FOR REVIEW AND DISCUSSION

Ronald L. Miller, Ph.D., Assistant Director
Arizona Department of Environmental Quality

Signed this ____ day of

_____ 19 ___

Part II. SPECIFIC CONDITIONS (R9-20-208.C.)

A. Containment/Disposal Requirements

1. Containment

The permittee is authorized to operate a hydrometallurgical precious metal recovery facility utilizing the cyanide heap leach process. Components of the operation shall include an agglomeration circuit, an impervious lined leach pad with solution collection ditches and containment berms, two impervious lined solution containment ponds (pregnant, barren), a product recovery circuit, and stormwater diversion ditches and berms. The facility shall be constructed and maintained in such a manner as to prevent discharge of pollutants to the land surface or subsurface which may have an adverse impact on groundwater.

a. Heap Leach Process

Material (ore) to be processed at the facility include 225,000 tons of existing on-site tailings. The tailings will be agglomerated with Portland cement prior to placement on the heap leach pad. The pelletized (agglomerated) material shall be placed on the lined leach pad. The heap will be constructed on the lined leach pad in three lifts, each of which will be twelve to fifteen feet in height, with a total heap height of approximately 45 feet. The cyanide solution application rate to the heap shall be approximately 0.004 gallons per minute per square foot, with a corresponding design solution flow rate of approximately 100 gpm.

b. Leach Pad Design with Leak Detection/Collection

The leach pad shall cover an area of approximately 180,000 square feet (4 acres) and shall be graded at a 1 percent slope from the toe of the pad (collection ditch) to a distance of 75 feet upslope edge of the pad. Prior to installation of the liner, the lining contractor shall inspect and verify the subgrade to be a continuous smooth surface free of protrusions of rock, nested gravels or other abrupt irregularities and that proper compaction has been achieved. The upper 6 inches of subgrade shall be compacted to a minimum of 95

percent of maximum dry density as determined by ASTM D698 method. A leak detection system consisting of a 30 mil HDPE underliner, a 16 ounce geotextile and a granual (sand and gravel) fill shall be placed underneath the primar liner at the west toe of the five segment berms which run parallel to the pad slope and divides the pad into five identical segments. The leak detection system shall have five sample access tubes (risers) booted through the primary liner at the toe of each pad segment to provide access for sampling of any leaking fluids. The leach pad primary liner shall consist of a 30-mil HDPE material and shall meet or exceed the National Sanitation Foundation minimum material properties (NSF Standard 54). Liner installation shall be supervised by a Lining Contractor which has more than five years experience or more than five million square feet of successfully installed flexible membrane lining. Destructive shear and peel test (ASTM D4545 6.1.2 and 6.1.1) shall be performed by an independent testing laboratory on field welds every 500 lineal feet of weld. The entire length of each field weld shall be tested by either vacuum methods or by electric arc testing.

c. Solution Storage Ponds with Leak Detection/Collection

The 40 mil HDPE lined solution collection channel located along the downslope toe of the leach pad shall transport pregnant solution and storm water runoff from the leach pad to the ponds. The V-shaped solution channel shall have a discharge capacity capable of handling the operating solution flow rate of 100 gpm with 1.8 foot of freeboard, and a stormwater discharge capacity in excess of 44,000 gpm without freeboard. Pregnant solution shall be directed from the channel down a spillway to the pregnant pond inlet. The pregnant pond shall have a total capacity of 1,000,000 gallons, which includes approximately 400,000 gallons reserved for stormwater flows. The pregnant pond shall have a reserved stormwater capacity capable of containing one-half the six-hour PMF (Probable Maximum Flood) (4.7 inches) which may fall on all lined areas. The barren solution storage pond will be approximately the same dimensions and capacity as the pregnant solution pond. The pregnant and barren pond liners shall be composed of three layers. First, a 20-mil HDPE underliner shall be covered by a layer of 16 ounce geotextile. The primary liner shall overlay the geotextile and shall be a 40-mil HDPE geomembrane. The bottom of both ponds shall be sloped to a lined leak

detection/collection sump where a PVC pipe shall be installed between the HDPE underliner and the HDPE primary liner extending through (booted) the primary liner at the crest elevation of each pond to provide access for the detection and sampling of any fluid leaks. Geomembrane liner installation and field seaming test as described for the heap pad liner installation shall be required for pond liner installations.

d. Product Recovery and Spill Containment

Precious metals contained in the leach solution shall be recovered in the extraction plant. Solution in the pregnant solution pond shall be pumped to the extraction plant and then into the barren solution storage pond. The extraction plant area shall be sloped to drain to the barren solution pond. The concrete floor of the extraction plant shall be designed to drain to a cement sump, piped to conduct flow to the barren solution pond. The cement structure and sump shall be capable of containing all solutions being processed within the extraction plant.

e. Tailings Disposal

The waste product (leach tailings) generated by the heap leach processing shall be rinsed and neutralized tailings contained on the impervious lined pad. The waste product shall not be removed from the lined pad and shall be stacked to prevent slumping and shall not allow discharge of any material or fluids to the land surface of subsurface.

f. Chemical Storage

Sodium cyanide used in the leaching process shall be stored in "air-tight" drums on wooden platforms underlain by a 40 mil HDPE liner which drains into the barren solution pond. A fresh water spray system shall be installed for washdown of the storage area and for triple rinsing empty cyanide containers. Empty chemical containers which have been triple rinsed shall be stored on-site until disposed of at an approved landfill site. All personnel shall be required to attend a cyanide safety and first-aid seminar offered on-site by the chemical supplier, or the State Mine Inspector. A stock of hypochlorite shall be maintained on-site for the purpose of neutralizing any cyanide in the unlikely event a spill occurs outside the areas of lined containment.

g. Sewage Disposal

Only temporary non-residential structures shall be built on-site to serve as an analytical laboratory, offices, and storage. Domestic sewage disposal shall be by means of portable toilets which shall be properly maintained with disposal of holding tank effluent at an approved location (landfill or wastewater treatment plant). All analytical samples shall be returned to the heap leach circuit so that no discard of leach solution samples to the land surface or subsurface shall be allowed.

h. Facility Protection

A surface water diversion system shall be constructed to prevent any runoff from a stormwater event from entering the processing site. Diversion of runoff from the upslope watershed shall be provided by a trapezoidal channel. The diversion channel shall be ten feet wide at the base with a height of approximately five feet with side slope having a 2 1/2:1 slope. The diversion shall have a discharge capacity of approximately 875 cfs approximately the equivalent of the 100-year, 24-hour storm event for the 4.4 square mile watershed. The channel surface shall be lined with shotcrete for erosion protection. A fence shall be constructed to enclose the leach pad, solution ponds, extraction plant, and chemical storage areas. The fence shall have lockable gates on all entrances and shall be posted as a restricted access area.

2. Unauthorized Materials

a. Adequate supervision and operation shall be performed to ensure that all users of the facility are aware of and understand the containment/ disposal requirements of Part II.A.

b. No commercial operations utilizing hazardous materials or creating hazardous wastes shall dispose of such materials into these systems.

3. Discharge Source Limits

a. There shall be no discharge of pollutants that violate the State of Arizona Groundwater Quality Standards (A.R.S. R9-21-401, et seq.).

b. The exhausted ore (waste product) shall not be removed from the lined heap leach pad.

c. Analytical sampling aliquots shall be returned to the heap leach solution circuit and shall not be disposed of on the land surface or subsurface.

4. Leak Detection Limits

Any fluid collected at the leak detection/collection sampling points shall not exceed a pH of 8.5 or show the presence of free cyanide above 0.20 mg/l.

5. Modification

This permit is issued contingent upon the above conditions. The permittee shall give ninety (90) days written advance notice to the Department of any modification to the above facility.

6. Other Laws and Rules

The operator must maintain compliance with all other State of Arizona laws and rules. The issuance of this permit does not waive any federal, state, county, or local government rules, regulations, or permits for which this facility may have to comply.

B. Monitoring Requirements, Record Keeping (R9-20-215)

1. Monitoring Type and Conditions

a. Leach Solution Monitoring

The leaching solution used in the hydromethallurgical heap leach process shall be closely monitored at least once daily in the form of a water balance. Representative samples will be taken daily from: Drainage from the heap leach pad into pregnant pond, leach solution entering and leaving barren ponds where chemicals (cyanide, lime) are added. All solutions sampled shall be analyzed by standard field methods for pH and cyanide (free) (EPA method 335.1). A log of these results, as well as daily solution levels in both barren and pregnant ponds, and the amount of fresh water added to leaching system daily shall be kept at the facility available for inspection by ADEQ personnel and shall be submitted to the Department in the form of a water balance along with the monitoring report as outlined in Part II.B.2.

b. Leak Detection and Collection Monitoring

The leak collection sampling point specified in Part II.A.1.b. and c. shall be monitored weekly for

the presence of fluid. Any fluid collected shall be analyzed by standard field methods for pH and free cyanide. Refer to contingency requirements (Part II.C.) for action to be taken if cyanide is detected.

2. Reporting Frequency

For daily and weekly field monitoring, including leak detection monitoring and water balance, obtained during the previous 3 months shall be summarized for each month and submitted quarterly in duplicate in accordance with the following schedule. The operator shall prepare a quarterly assessment report including the status of the operation, any remedial activities undertaken and analytical results for that quarter.

Monitoring results, water balance and assessment report for the previous quarter shall be postmarked no later than the 28th day of the month following the completed reporting period as follows:

Reporting Period	are due by
1st Quarter (Jan, Feb, Mar)	Apr 28
2nd Quarter (Apr, May, Jun)	Jul 28
3rd Quarter (Jul, Aug, Sep)	Oct 28
4th Quarter (Oct, Nov, Dec)	Jan 28

The results of all monitoring and reporting required by this permit shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this permit. All forms shall be sent to the following address:

Arizona Department of Environmental Quality
Office of Water Quality
Compliance Section
2005 North Central Avenue
Phoenix, Arizona 85004

C. Contingency Requirements (R9-20-206.D.2.)

1. Should any fluid be collected in any of the leak detection sampling points and exceed the limits of Section A.3., the permittee shall contact the Water Permits/U.S.T. Compliance Unit, adjacent landowners, and the Maricopa County Health Department within 72 hours to determine the appropriate action to mitigate the effects of the violation.

In the event of a spill, it shall be neutralized with a 10% hypochlorite solution stored on site to accommodate such or any other type of unforeseen situation. Any spill shall be reported in the quarterly assessment report.

D. Post-Closure Plan (R9-20-206.D.3. and R9-20-216.C.2.)

1. Before permanent abandonment of the facility site, the permittee shall adhere to the following procedures for closure when utilizing cyanide.

   a. Operate the leach solution circuit for a minimum of 96 hours without the addition of cyanide, only adding fresh water and caustic soda to maintain water levels and a pH of 10 to 11. Test the leach solution for any residual free cyanide. If free cyanide is detected in concentrations of greater than 0.2 mg/l, continue with next steps ("b." and "c." hypochlorite neutralization). If free cyanide is not detected in concentrations of greater than 0.2 mg/l, go to step "e.".

   b. Run a 1% hypochlorite solution through the pregnant pond and barren pond for a minimum of 24 hours.

   c. Run a 1% hypochlorite solution through the entire heap leaching system for a minimum of 48 hours.

   d. Test the rinseate for free cyanide as described in Part II.B.1.a. If free cyanide is detected in concentrations of greater than 0.2 mg/l, repeat steps "a." "b." and "c." above and test for cyanide again.

   e. Allow solutions to evaporate from the ponds. Any remaining residues or sludges shall be analyzed by EPA approved test methods (Test Methods for Evaluating Solid Waste, SW-846, 2nd Edition) for the following constituents, and the results reported to the Department.

Constituent	Limits
Cyanide (Total and Free)	10 mg/l
Arsenic	5 mg/l
Barium	100 mg/l
Cadmium	1 mg/l
Chromium	5 mg/l
Lead	5 mg/l
Selenium	1 mg/l
Silver	5 mg/l

If any constituent exceeds its associated limit, the residual sludge shall be removed and disposed of at a landfill approved for handling hazardous waste.

2. The permittee shall file a report with the Department's Water Permits Unit following closure describing the results of each step of the closure plan within 60 days after closure.

E. Compliance Schedule (R9-20-219)

No special requirements.

Part III. REFERENCES: PERTINENT INFORMATION

A. References

The terms and conditions set forth in this permit have been developed based upon the information contained in the following:

1. Groundwater Field Inspection Form(s) dated _____

2. Notice of Disposal dated 5/13/87

3. Groundwater Impact Review dated _____

4. Plan Review File Number N/A

5. Permit Application dated _____

6. Groundwater Impact Review dated _____

7. Amendments to 2 and 4 dated _____

8. Public Notice dated Februay 29, 1988

9. Public Hearing comments, correspondence letters, and any additional supplemental information contained in the facility permit file.

10. Other DRAFT FOR REVIEW AND DISCUSSION

B. Facility Information

1. Facility Contact Person Carole A. O'Brien, Operator

2. Address 7340 E. Shoeman Lane, Suite 111 "B" (E)
Scottsdale, Arizona 85251-3335

3. Emergency Telephone Number: Bus: (602) 945-4630
Home (602) 949-5015

The Department shall be notified within 30 days of a change in the facility contact person.

4. Landowner of Facility Site Vulture Mine Properties, Inc.
Larry Beal, President

To: Budge Mining Co. 2 April 1989
From: J.M. Prudden
Subject: Weekly Progress Report; Vulture Placer Project

Activities for the week continued the systematic sampling, sample processing and geological mapping of trenches within the central tailings area. Elevation and co-ordinate survey data for this area was received during the week enabling map drafting and geological interpretation.

Approximately 13 tons of sample have been processed to date producing an average sample weight of 661 pounds. These samples have yielded about 2,400 gold particles ranging in size from minute >0.1 mg grains to a 6.9 gm. nugget. The individual shapes generally indicate short transport distance as evidenced by subrounded edges on grains that still retain their spongy, wire and dendritic forms. Some of these particles are coated with iron oxide.

Preliminary geological evaluation of the individual trench mapping indicates the presence of discrete fluvial channels within the tailings area. The eastern channel is relatively narrow measuring +/- 100 feet wide. High energy fluvial sedimentation in this zone has deposited cobbles and boulders, accompanied by large gold particles on an deeply incised bedrock surface. Several larger gold grains have been recovered from this channel with unofficial individual weights to 6.9 g. In contrast, significant gold concentrations in the adjacent channel to the west occur several feet above bedrock indicating a possible change in source area during sedimentation. The gold in this geological setting is small and juvenile.

A total of 10 amalgamation assays have been received to date from Dawson's Lab. They range from 0.315 to 16.783 mg. equating to $0.02 and $1.18 per cubic yard, respectively. These values are from low energy gravels obtained from the western channel. The small gold grain size in this area would suggest the possibility of mine run heap leach extraction opportunities.

Verbal communication with Mountain States R&D International revealed that few tailings assays were available for the week. However, results for three quartz-siderite veins sampled from trenches has indicated one value of 0.30 OPT gold and 0.10 OPT silver for these conformable veins.

Process plant main eccentric bearing failure reduced mechanical availability to 60% with effective utilization for this period at 43.3%. Continued systematic sampling has failed to detect particulate gold in plant tails.

DAWSON METALLURGICAL LABORATORIES, INC.

P. O. Box 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

Ben F. Dickerson
DMEA Ltd.
4203 North Brown Avenue, Suite F
Scottsdale, Arizona 85251

Subject: Results of Assay Screen Analysis and Cyanide Leach Amenability Tests on Vulture Mine Pit Ore Sample and Stamp Mill Tailings. Our Project No. P-1042.

Gentlemen:

We have completed the assay screen analyses and cyanide leach amenability tests requested by Frank Millsaps. Column leach tests to simulate heap leaching have been started. The results of the completed tests are summarized in the following tables. The completed test results and test conditions for individual tests are given on copies of the laboratory worksheets attached to this report.

P-1042A Stamp Mill Tailing Head Assay Screen Analysis and Cyanide Leach Results

Size Fraction (screen mesh)	Head Sample Percent Wt	Head Sample Assay oz Au/T	Head Sample Dist % Au	Leach Residue Percent Wt	Leach Residue Assay oz Au/T	Leach Residue Dist. %Au
+48	20.0	0.030	20.7	17.2	0.010	
-48 +65	7.5	0.030	7.9	7.1	0.010	
-65 +100	10.9	0.020	7.6	10.0	0.010	
-100 +150	11.7	0.013	5.2	11.0	0.015	
-150 +200	12.8	0.010	4.5	12.7	0.010	
-200 +325	7.7	0.013	3.4	9.2	0.010	
-325	29.4	0.050	50.7	32.8	0.010	
Residue				100.0	0.010	27.8
Leach Solution					0.024	72.2
Head (calc)	100.0	0.029	100.0	100.0	0.036	100.0

P-1042B Pit Ore Sample 76.9 Percent Minus 200 Mesh and Minus One-half Inch Cyanide Leach Test Results

Size Fraction (screen mesh)	79.6% Minus 200 Mesh Assay oz Au/T	79.6% Minus 200 Mesh Distribution % Au	Minus 1/2 Inch Percent Wt	Minus 1/2 Inch Assay oz Au/T	Distribution % Au
-1/2" +1/4"			28.01	0.093	
-1/4" +10			30.06	0.038	
-10 +20			5.35	0.030	
-20 +35			2.68	0.031	
-35 +65			2.60	0.024	
-65 +100			0.73	0.020	
-100			30.58	0.019	
Residue	Tr(.002)	4.9	100.0	0.047	66.72
Leach Soln	0.037	95.1		0.023	33.28
Head (calc)	0.041	100.0		0.070	100.00

The results of these tests show that agitation cyanide leaching of the Stamp milling tailing gave a leach residue with 0.01 oz Au per ton and that the sample is a good candidate for heap leaching. These results also show varibility in the head assay indicating the presence of free gold. The pit ore sample probably has free gold as there was a wide variation in the head assays. Copies of the assay reports are attached to this report.

I. Samples

We received two samples on March 16, 1984: Stamp mill tailing and pit ore sample.

A. Stamp Mill Tailing (Our Project No. P-1042A)

The 57 Stamp mill tailing samples were composited into one sample. This composite was mixed, coned and quartered, and samples split out for testing.

B. Pit Ore (Our P-1044B)

We received five bags of pit ore sample. A composite was made by mixing one-half of each bag together. The composite was mixed, coned and quartered, and samples split out for testing.

II. Test Procedures

Two tests have been completed on the Stamp mill tailing. Test 1 was an assay screen analysis. Test 2 was a cyanide leach. In Test 2 2000 grams of as received sample were agitated in a rolling bottle for 48 hours at 50 percent solids with 10 pounds of NaCN per ton solution. The pH was maintained above 10 with lime ($Ca(OH)_2$). An assay screen analysis was made on the leach residue.

Two tests have been completed on the pit ore sample. Test 1 was a cyanide leach as follows: A 1000 gram sample was laboratory ball mill ground to 76.9 percent minus 200 mesh. The sample was leached in a rolling bottle for 48 hours at 50% solids with 10 pounds of NaCN /ton soln. The pH was maintained above 10.5 with lime.

Test 2 was a cyanide leach where a 4000 gram sample was crushed to minus one-half inch and agitated in a rolling bottle for 48 hours at 50% solids with a 10 pound NaCN per ton solution. An assay screen analysis was made on the leach residue.

III. Tests in Progress

Three column leach tests to simulate heap leaching the Stamp mill tailings are in progress. In P-1042A Test 3 the Stamp mill tailings were agglomerated with 10 pounds of cement, 5 pounds of quicklime (CaO), and 3 pounds of NaCN per ton. A solution of 0.5 lbs NaCN per ton is pumped on the top of the column at 0.004 gpm/ft^2. The pellets in this test softened and deformed during leaching so another test was started. In P-1042A Test 4, Test 3 was duplicated except 15 pounds of cement, 10 pounds of quicklime, and 3 pounds of NaCN per ton were used to agglomerate. In both of these tests the pellets were too large so in P-1042A Test 5, Test 3 was repeated except smaller pellets were made. We will report the results of these tests as they become available.

We appreciate the opportunity to work on this project. If you have any questions, please contact us.

Very truly yours,
DAWSON METALLURGICAL LABORATORIES, INC.

W Richard McDonald

W. Richard McDonald,
Consulting Metallurgist

cc: Frank Millsaps

WRM-cac

DAWSON
METALLURGICAL
LABORATORIES, INC.

P. O. Box 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

PROJECT NO. P-1042-A
DATE 3/19/84
BY Dee
Stamp Tailing

TEST NO. 1 NAME A.F. Budge

Assay Screen Analyses

PRODUCT	Weight	PERCENT WEIGHT	ASSAY Au	UNITS Au	DISTRIBUTION Au
+48	350.9	20.0	.030	.0060	20.7
+65	144.5	7.5	.030	.0023	7.9
+100	207.1	10.9	.020	.0022	7.6
+150	222.5	11.7	.013	.0015	5.2
+200	243.0	12.8	.010	.0013	4.5
+325	147.0	7.7	.013	.0010	3.4
-325	560.8	29.4	.050	.0147	50.7
Head (calc)	1905.8	100.0	.029	.0290	100.0

OPERATION	
TIME	
REAGENTS - LBS. PER TON	
MACHINE	
R.P.M.	
pH	
% SOLIDS	
TEMPERATURE	

	GRINDING PRODUCT	
MESH	%	%
+10		
+14		
+20		
+28		
+35		
+48		
+65		
+100		
+150		
+200		
+325		
-325		

REMARKS:

DAWSON
METALLURGICAL
LABORATORIES, INC.

P. O. Box 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

PROJECT NO. P-1042A
DATE 3/20/84
BY DD & LA
Stamp Tailing

TEST NO. 2 NAME A.F. Budge Ltd.

48 hour NaCN Leach with 10 lbs NaCN/ton Soln followed by Assay Screen Analysis on Residue

PRODUCT	Weight	PERCENT WEIGHT	ASSAY	UNITS	DISTRIBUTION
			Au		Au
+48	333.6	17.2	.010		
-48 +65	137.3	7.1	.010		
-65 +100	192.8	10.0	.010		
-100 +150	212.0	11.0	.015		
-150 +200	244.7	12.7	.010		
-200 +325	177.6	9.2	.010		
-325	635.7	32.8	.010		
	1933.7	100.0	.010	.1934	27.8
Leach Solution	2088		.024	.5011	72.2
Head (calc)	1933.7		.036	.6945	100.0

3/2/84

OPERATION		Leach		Leach			48 hour					GRINDING PRODUCT	
TIME				1:15	9:00								
REAGENTS - LBS. PER TON				Start			Off						
Ore	2000gms										MESH	%	%
H_2O	2000cc										+10		
											+14		
Lime		3.0				0.5					+20		
											+28		
NaCN				10.0							+35		
NaCN Titration							6.8				+48		
CaO Titration							None				+65		
NaCN Consumed (lb/Ton)							3.0				+100		
Lime Consumed (lb/Ton)							3.1				+150		
MACHINE											+200		
R.P.M.											+325		
pH			11.0		10.4		10.6				-325		
% SOLIDS													
TEMPERATURE													

REMARKS:

DAWSON
METALLURGICAL
LABORATORIES, INC.

P. O. Box 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

PROJECT NO. P-1042B
DATE 3/27/84
BY MT
Pit Ore

TEST NO. 1 NAME A.F. Budge Mining Ltd.
48 hour NaCN Leach with 10 lbs/ton NaCN

PRODUCT	Weight	PERCENT WEIGHT	ASSAY			UNITS		DISTRIBUTION		
				Au	Ag		Au		Au		
Leach Residue	998.1		Tr	(.002)	N		.0200		4.9		
Leach Solution	1045.9			.037	N		.3870		95.1		
Head (calc)	998.1			.041			.4069		100.0		

3/29/84

OPERATION	BM	Leach		Leach		GRINDING PRODUCT		
TIME				2:00	2:00			
REAGENTS - LBS. PER TON				Start	Off			
						MESH	%	%
Ore	1000					+10		
Water	1000					+14		
Lime		1.0				+20		
NaCN				5.0		+28		
NaCN Titration					7.5	+35		
CaO Titration					0.05	+48	0.0	
NaCN Consumed (lb/ton)					2.0	+65	0.1	
Lime Consumed (lb/ton)					2.0	+100	1.5	
						+150	6.5	
MACHINE						+200	15.0	
R.P.M.						+325	21.5	
pH	8.1		11.0		10.5	-325	55.4	
% SOLIDS							100.0	
TEMPERATURE								

REMARKS:

DAWSON
METALLURGICAL
LABORATORIES, INC.

P. O. Box 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

PROJECT NO. P-1042B
DATE 4/4/84
BY MT & LA
Pit Ore

TEST NO. 2 NAME A.F. Budge Mining Ltd.

Crush to -1/2 inch. Leach with 10 lbs NaCN/ton for 48 hours - Assay Screen on Tail

PRODUCT	Weight	PERCENT WEIGHT	ASSAY Au	UNITS Au	UNITS Au	DISTRIBUTION Au	DISTRIBUTION Au
-1/2 +1/4	1120.0	28.01	0.0935	0.0262		56.10	
-1/4 +10 Mesh	1202.0	30.06	0.0385	0.0116		24.84	
-10 +20 Mesh	214.0	5.35	.030	0.0016		3.43	
-20 +35 Mesh	107.0	2.68	.0315	0.0008		1.71	
-35 +65 Mesh	104.0	2.60	.0245	0.0006		1.28	
-65 +100 Mesh	29.0	0.73	.0205	0.0001		0.21	
-100 Mesh	1223.0	30.58	.019	0.0058		12.42	
Residue	3999.0	100.00	0.047	0.0467	1.8795	100.0	66.72
Leach Solution	4076.0		0.023		.9375		33.28
Head (calc)	3999.0		0.07		2.8170		100.00

OPERATION				Leach	48 hour		GRINDING PRODUCT	
TIME				2:15				
REAGENTS - LBS. PER TON				Start	Off			
Ore -1/2 Inch	4000						MESH	%
Water	4000						+10	
Lime		4.0					+14	
NaCN				20.0			+20	
CaO Titration					None		+28	
NaCN Titration					8.5		+35	
CaO Consumed					2.0		+48	
NaCN Consumed					1.3		+65	
							+100	
							+150	
MACHINE							+200	
R.P.M.							+325	
pH	7.8		11.2		10.3		-325	
% SOLIDS								
TEMPERATURE								

REMARKS:

DAWSON METALLURGICAL LABORATORIES, INC.

P. O. Box 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

July 13, 1984

Mr. Ben F. Dickerson III
A.F. Budge Mining Ltd.
DMEA Ltd
4203 North Brown Avenue, Suite F
Scottsdale, Arizona 85251

Subject: Heap Leach Test Results for Vulture Project Ore and Tailing Composite. Our Project No. P-1042 Composite C and D.

Gentlemen:

The heap leach test that Frank Millsaps authorized be made on a composite sample of ore and tailings that we received on June 1, 1984 has been completed. A composite sample was made by mixing 80 percent ore with 20 percent tailing. This sample was agglomerated with the following:

Ore	10,000 gram	
Cement	75 gram	(15 lbs/ton)
Quicklime	25 gram	? (25 lbs/ton)
NaCN	15 gram	(3 lbs/ton)
H_2O	1100 gram	

The resulting pellets were loaded into a 4 inch diameter column, allowed to cure for 1 day, and leached with a 0.5 pound NaCN per ton solution. The overall results of this test were as follows:

Leach Residue	Head (calc)	Extraction %	NaCN Consumed, lbs/Ton
0.018	0.079	77.2	1.6

The actual leach time was from June 5 to June 25, 1984 or 20 days. Summary sheets for the gold extraction and the cyanide solutions, and the assayers reports are attached.

The agglomerated pellets maintained their integrity throughout leaching and subsequent drying and sampling.

If you have any questions, please contact me.

Very truly yours,
DAWSON METALLURGICAL LABORATORIES, INC.

W Richard McDonald

W. Richard McDonald,
Consulting Metallurgist

cc: Mr. Frank Millsaps

A.F. Bugde Mining Ltd
Summary of Gold Extraction
Heap Leach
Agglomerated with 15 lbs Cement,
5 lbs CaO, 3 lbs NaCN per ton
Leach Solution 1/2 lb NaCN per ton
Flow Rate 0.002 gpm/ft^2

P1042 - Test 1 - 10.011 Kgs (343.2 assay tons)

Date	Sample	Liters	Oz/Ton Au	ppm Au	mgs Au	Cum. mgs Au	Cum. Oz/Ton Au		Cum. Dist. V1C Au
6/5/84	Start								
6/7/84	P1	2.145	0.127	4.35	9.34	9.34	0.027		34.5
6/8/84	P2	1.533	0.055	1.89	2.89	12.23	0.036		45.2
6/10/84	P3	2.633	0.030	1.03	2.71	14.94	0.044		55.2
6/11/84	P4	1.184	0.022	0.75	0.89	15.83	0.046		58.5
6/12/84	P5	1.093	0.016	0.55	0.60	16.43	0.048		60.8
6/14/84	P6	2.372	0.012	0.41	0.98	17.41	0.051		64.4
6/16/84	P7	2.054	0.010	0.34	0.70	18.11	0.053		67.0
6/18/84	P8	2.125	0.010	0.34	0.73	18.84	0.055		69.7
6/20/84	P9	2.694	0.007	0.24	0.65	19.49	0.057		72.1
6/22/84	P10	1.956	0.006	0.21	0.40	19.89	0.058		73.5
6/24/84	P11	2.418	0.006	0.21	0.50	20.39	0.059		75.4
6/27/84	P12	2.806	0.005	0.17	0.48	20.87	0.061		77.2
	Residue - Fire Assay -						0.018	0.00	22.8
	Calculated Head -						0.079		100.0

Project P-1042
A.F. Budge Mining Limited
Composite C & D Test 1
Cyanide Solution Summary
Ore Weight 10.011 Kg

Date	Sample	Feed Solution NaCN lbs/Ton	Feed Solution NaCN Grams	Pregnant Solution Liters	Pregnant Solution NaCN lbs/ton	Pregnant Solution NaCN Grams	pH
6/4/84	Pelletize		15				
6/5/84	Start						
6/7/84	P-1	0.5	0.5	2.145	7.4	7.9	12.1
6/8/84	P-2	0.5	0.4	1.533	2.0	1.5	12.1
6/10/84	P-3	0.5	0.7	2.633	1.0	1.3	12.0
6/11/84	P-4	0.5	0.3	1.184	0.5	0.3	11.9
6/12/84	P-5	0.5	0.3	1.093	0.5	0.3	11.8
6/14/84	P-6	0.5	0.6	2.372	0.4	0.4	11.7
6/16/84	P-7	0.5	0.5	2.054	0.2	0.2	11.3
6/18/84	P-8	0.5	0.5	2.125	0.2	0.2	11.1
6/20/84	P-9	0.5	0.7	2.694	0.2	0.3	11.3
6/22/84	P-10	0.5	0.5	1.956	0.2	0.2	11.1
6/24/84	P-11	0.5	0.6	2.118	0.2	0.2	11.1
6/27/84	P-12)	0.5	0.5	1.823)	0.2	0.3	10.3
	)	0.0	0	0.983)			
		21.1				13.1	

$$\text{Flow Rate (6/7/84 to 6/22/84)} = \frac{17644 \text{ ml}}{(17 \text{ day})\ \left(\frac{1440 \text{ min}}{\text{day}}\right)} = 0.8 \text{ ml/minute}$$

$$= 0.003 \text{ gpm/ft}^2$$

$$\text{NaCN Consumed} = \frac{(21.1 - 13.1)}{(10{,}011\text{g})}\ (2000) = 1.6 \text{ lbs/ton Ore}$$

DAWSON
METALLURGICAL
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DMEA LTD.

Results of Agglomeration and Column Leach Tests on Your Vulture Mine Stamp Tailings. Our Project No. P-1042.

DAWSON
METALLURGICAL
LABORATORIES, INC.

P. O. Box 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

May 7, 1984

Ben F. Dickerson
DMEA LTD.
4203 North Brown Avenue, Suite F.
Scottsdale, Arizona 85251

Subject: Results of Agglomeration and Column Leach Tests on Your Vulture Mine Stamp Mill Tailings. Our Project No. P-1042.

Gentlemen:

We have completed the three agglomeration and column leach tests that Frank Millsaps requested be made on your samples of the Vulture Mine Stamp Mill Tailings. The following table summarizes the results of these tests. Results of Test 1 and 2 were given in Our Report dated April 18, 1984.

P-1042-A Summary of Vulture Mine Stamp Mill Tailings
Column Leach Test Results

Test No.	Gold Extracted, oz/ton Ore	Assay, oz Au/t Ore: Leach Residue	Calc Head	Nominal Pellet Size, Inches	Reagents, lbs/T Ore: Cement	CaO	NaCN Consumed
3	0.023	0.010	0.033	3/4	10	5	1.5
4	0.019	0.010	0.029	3/4	15	10	1.9
5	0.018	0.010	0.028	3/8	10	5	1.2

The pellets in Test 3 were not strong enough to be used in a scaled-up heap leach. The pellets in Test 5 were improved but would probably be of marginal strength in a scaled-up heap leach. The pellets in Test 4 would be adequate. Pictures of the pellets in each test are attached. The graph attached to this report illustrates the gold extraction per ton of ore versus time for column leach Tests 3, 4, and 5. This graph shows that most of the leaching is complete in three to four days.

The specific gravity and the apparent bulk density were both measured as follows:

Specific Gravity = 2.7
Apparent Bulk Density = 97.7 lbs/ft^3

Copies of the laboratory worksheets are attached to this report. They give the complete test conditions, sampling schedule and test results.

Test Procedure

Samples were prepared for column leaching by agglomerating 10,000 grams of the stamp mill tailing. Samples were agglomerated by mixing cement and quicklime with the stamp mill tailing and then adding 3 lbs NaCN per ton of ore as a solution with the water used for agglometation. The agglomerated samples were put in 5 inch diameter columns for leaching. Samples for Tests 3 and 5 were agglomerated with 10 lbs of cement and 5 lbs of quicklime per ton of ore. The nominal pellet size in Test 3 was about 3/4 inches in diameter. The nominal pellet size in Test 5 was about 3/8 inches in diameter. The sample for Test 4 was agglomerated with 15 lbs cement and 10 lbs quicklime per ton of ore. All samples were leached with 0.5 lbs NaCN per ton solution.

We appreciate the opportunity to work on this project. If you have any questions, please contact us.

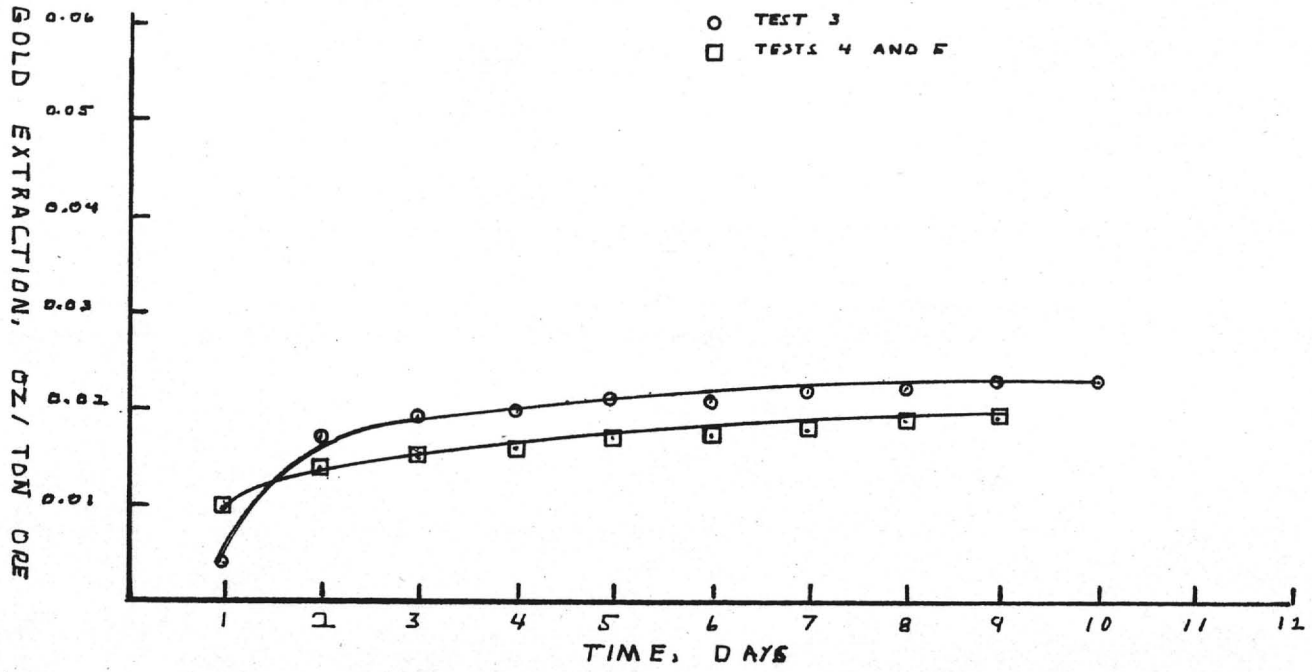
Very truly yours,
DAWSON METALLURGICAL LABORATORIES, INC.

W Richard McDonald

W. Richard McDonald,
Consulting Metallurgist

cc: Mr. Frank Millsaps

WRM-cac



P1042 A AF BUDGE
VULTURE MINE STAMP MILL TAILING
COLUMN LEACH TESTS

DAWSON
METALLURGICAL
LABORATORIES, INC.

P. O. Box 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

PROJECT NO. P-1042-A
DATE 4/3/84
BY DMC
Stamp Mill Tailing

TEST NO. 3 NAME A.F. Budge Mining Ltd.

Heap Leach - Agglomerate with 10 lbs Cement 5 lbs CaO and 3 lbs NaCN/ton. Leach with 0.5 lb NaCN/ton.

PRODUCT	Weight	PERCENT WEIGHT	ASSAY					UNITS			DISTRIBUTION				
Leach Residue															
Dry	8995														

OPERATION	Pelletize
TIME	
REAGENTS - LBS. PER TON	
Ore	10,000
Cement	50
CaO	25
NaCN	15
H_2O	1350
MACHINE	
R.P.M.	
pH	
% SOLIDS	
TEMPERATURE	

GRINDING PRODUCT		
	MESH	%
	+10	
	+14	
	+20	
	+28	
	+35	
	+48	
	+65	
	+100	
	+150	
	+200	
	+325	
	-325	

REMARKS: Flow Rate $\frac{0.004 \text{ gpm}}{Ft^2}$ = 2 ml/0.1342 ft^2

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Murray, Utah 84107
Phone: 801-262-0922

PROJECT NO. P-1042
DATE 4/11/84
BY DMC
Stamp Mill Tailings

TEST NO. 4 NAME A.F. Budge Mining Ltd.

Head Leach - Agglomerate with 15 lbs Cement, 10 lbs CaO, and 3 lbs NaCN/ton. Leach with 0.5 lbs NaCN/ton

PRODUCT	Weight	PERCENT WEIGHT	ASSAY					UNITS			DISTRIBUTION				
Leach Residue															
Wet	11222														
Dry	9466														

OPERATION	Pelletize
TIME	
REAGENTS - LBS. PER TON	
Ore	10,000
CaO	50
Cement	75
NaCN	15
H_2O	1500
MACHINE	
R.P.M.	
pH	
% SOLIDS	
TEMPERATURE	

	GRINDING PRODUCT	
MESH	%	%
+10		
+14		
+20		
+28		
+35		
+48		
+65		
+100		
+150		
+200		
+325		
-325		

REMARKS:

DAWSON
METALLURGICAL
LABORATORIES, INC.

P. O. Box 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

PROJECT NO. P-1042-A
DATE 4/13/84
BY DMC

TEST NO. 5 NAME A.F. Budge

Stamp Mill Tailings

Repeat 3 Make Smaller Pellets

PRODUCT	Weight	PERCENT WEIGHT	ASSAY					UNITS			DISTRIBUTION				
Leach Residue															
Wet	11762														
Dry	9700														

OPERATION	Pelletize
TIME	
REAGENTS - LBS. PER TON	
Ore	10,000
Cement	50
Cao	25
NaCN	15
H_2O	1350
MACHINE	
R.P.M.	
pH	
% SOLIDS	
TEMPERATURE	

	GRINDING PRODUCT	
MESH	%	%
+10		
+14		
+20		
+28		
+35		
+48		
+65		
+100		
+150		
+200		
+325		
-325		

REMARKS:

A.F. Budge
Vulture Mine Stamp Mill Tailings
Column Leach

P1042A - Test 3 - 8.995 Kgs (308.4 assay tons)

Date	Sample	Liters	Oz/Ton Au	ppm Au	mgs Au	Cum. mgs Au	Cum. Oz/Ton Au		Cum. Dist. V1C Au
4/3/84	Start								
4/5/84	P1	0.478	0.074	2.54	1.21	1.21	0.004		12.1
4/6/84	P2	2.754	0.042	1.44	3.97	5.18	0.017		51.8
4/7/84	P3	2.051	0.008	0.27	0.56	5.74	0.019		57.4
4/8/84	P4	2.654	0.004	0.14	0.36	6.10	0.020		61.1
4/9/84	P5	2.292	0.003	0.10	0.24	6.34	0.021		63.4
4/10/84	P6	3.122	0.003	0.09	0.27	6.61	0.021		66.1
4/11/84	P7	1.762	0.002	0.07	0.12	6.73	0.022		67.3
4/12/84	P8	2.649	0.002	0.07	0.18	6.91	0.022		69.1
4/13/84	P9	2.606	0.001	0.03	0.09	7.00	0.023		70.0
4/15/84	P10	1.945	0.001	0.03	0.07	7.07	0.023		70.7
	Residue - Fire Assay -						0.010	0.00	29.3
	Calculated Head -						0.033		100.0

A.F. Budge
Vulture Mine Stamp Mill Tailings
Column Leach

P1042A - Test 4 - 9.466 Kgs (324.5 assay tons)

Date	Sample	Liters	Oz/Ton Au	ppm Au	mgs Au	Cum. mgs Au	Cum. Oz/Ton Au		Cum. Dist. V1C Au
4/11/84	Start								
4/13/84	P1	1.770	0.052	1.78	3.16	3.16	0.010		34.3
4/14/84	P2	2.673	0.016	0.55	1.47	4.62	0.014		50.3
4/15/84	P3	2.100	0.003	0.10	0.22	4.84	0.015		52.6
4/16/84	P4	2.478	0.004	0.14	0.34	5.18	0.016		56.3
4/17/84	P5	2.228	0.003	0.10	0.23	5.41	0.017		58.8
4/18/84	P6	2.378	0.003	0.10	0.24	5.65	0.017		61.5
4/19/84	P7	2.626	0.003	0.10	0.27	5.92	0.018		64.4
4/20/84	P8	1.959	0.002	0.07	0.13	6.06	0.019		65.9
4/22/84	P9	1.598	0.001	0.03	0.05	6.11	0.019		66.5
	Residue - Fire Assay -						0.010	0.00	33.5
	Calculated Head -						0.029		100.0

A.F. Budge
Vulture Mine Stamp Mill Tailings
Column Leach

P1042A - Test 5 - 9.700 Kgs (332.6 assay tons)

Date	Sample	Liters	Oz/Ton Au	ppm Au	mgs Au	Cum. mgs Au	Cum. Oz/Ton Au		Cum. Dist. V1C Au
4/13/84	Start								
4/16/84	P1	1.480	0.068	2.33	3.45	3.45	0.010		37.3
4/17/84	P2	2.474	0.016	0.55	1.36	4.81	0.014		52.0
4/18/84	P3	2.546	0.005	0.17	0.44	5.24	0.016		56.8
4/19/84	P4	2.603	0.003	0.10	0.27	5.51	0.017		59.7
4/20/84	P5	2.137	0.002	0.07	0.15	5.66	0.017		61.2
4/21/84	P6	2.384	0.002	0.07	0.16	5.82	0.018		63.0
4/22/84	P7	2.718	0.002	0.07	0.19	6.01	0.018		65.0
4/23/84	P8	2.077	0.001	0.03	0.07	6.08	0.018		65.8
	Residue - Fire Assay -						0.010	0.00	34.2
	Calculated Head -						0.028		100.0

P-1042 A.F. Budge Mining Ltd.
Test 3 WT 8.995 Kg

Date	Sample	Feed Sol'n			Preg Sol'n		
		lbs/ton	Grams	Liters	lbs/ton	Grams	pH
4/3/84	Pelletize		15				
4/4/84	Start						
4/5/84	P-1	0.5	0.12	.478	11.5	2.75	11.4
4/6/84	P-2	0.5	0.69	2.754	4.8	6.61	11.9
4/7/84	P-3	0.5	0.51	2.051	0.7	0.72	11.8
4/8/84	P-4	0.5	0.66	2.054	0.5	0.66	11.9
4/9/84	P-5	0.5	0.57	2.292	0.5	0.57	11.9
4/10/84	P-6	0.5	0.78	3.122	0.4	0.62	11.7
4/11/84	P-7	0.5	0.44	1.762	0.3	0.26	11.3
4/12/84	P-8	0.5	0.66	2.649	0.3	0.40	11.4
4/13/84	P-9	0.5	0.65	2.606	0.3	0.39	11.3
4/15/84	P-10	.0		1.945	0.3	0.29	10.0
			20.08			13.27	

$$\text{NaCN Consumed} = \frac{20.00 - 13.27}{8.995} \times (2) = 1.5 \text{ lbs NaCN/Ton}$$

Column Height
Start 25 1/2"
Finish 23"

$$\text{Average Flow Rate} = \frac{19.89}{8} = 2.4863 \text{ liter/day}$$
$$= 0.0034 \text{ gpm/square foot}$$

P-1042-A A.F. Budge
Test 4

Date	Sample	Feed Sol'n lbs/ton	Feed Sol'n Grams	Liters	Preg Sol'n lbs/ton	Preg Sol'n Grams	pH
4/11/84	Pelletize		15				
4/12/84	Start						
4/13/84	P-1	0.5	0.44	1.770	7.0	6.20	12.3
4/14/84	P-2	0.5	0.67	2.673	1.4	1.87	12.3
4/15/84	P-3	0.5	0.53	2.100	0.7	0.74	12.3
4/16/84	P-4	0.5	0.62	2.478	0.5	0.62	12.2
4/17/84	P-5	0.5	0.56	2.228	0.5	0.56	12.1
4/18/84	P-6	0.5	0.59	2.378	0.4	0.47	12.0
4/19/84	P-7	0.5	0.66	2.626	0.3	0.39	12.2
4/20/84	P-8	0.5	0.49	1.959	0.3	0.29	11.8
4/22/84	P-9	0	0	1.598	0.2	0.16	10.3
		19.56				11.30	

$$\text{NaCN Consumed} = \frac{19.56 - 11.30}{9.466} \times (2) = 1.9 \text{ lbs NaCN/Ton}$$

$$\text{Average Flow Rate} = \frac{14.483 \text{ liters}}{6 \text{ Days}} = 2.4138 \text{ liters/day}$$
$$= 0.0033 \text{ gpm/square foot}$$

Column Height
Start 25"
Finish 22 1/2"

P-1042 A.F. Budge Mining Ltd. Test 5 WT=9.7 Kg

		Feed Solution			Pregnant Solution		
Date	Sample	NaCN, lbs/ton	NaCN, Grams	Liters	NaCN, lbs/ton	NaCN, Grams	pH
4/13/84	Pelletize		15				
4/15/84	Start						
4/16/84	P-1	0.5	0.37	1.48	9.7	7.18	11.7
4/17/84	P-2	0.5	0.62	2.474	2.4	2.97	11.5
4/18/84	P-3	0.5	0.64	2.546	0.5	0.64	11.4
4/19/84	P-4	0.5	0.65	2.603	0.5	0.65	11.4
4/20/84	P-5	0.5	0.53	2.137	0.4	0.43	11.3
4/21/84	P-5	0.5	0.60	2.384	0.3	0.36	11.7
4/22/84	P-7	0.5	0.68	2.718	0.4	0.54	11.6
4/23/84	P-8	0	0	2.077	0.3	0.31	11.1
			19.09			13.08	

$$\text{NaCN Consumed} = \frac{19.09 - 13.08}{9.7} \times (2) = 1.2 \text{ lbs/ton}$$

$$\text{Average Flow} = \frac{15.862}{6} = \frac{2.6437}{\text{Day}} \text{ liters}$$

$$= 0.0036 \text{ gpm/square foot}$$

Column Height

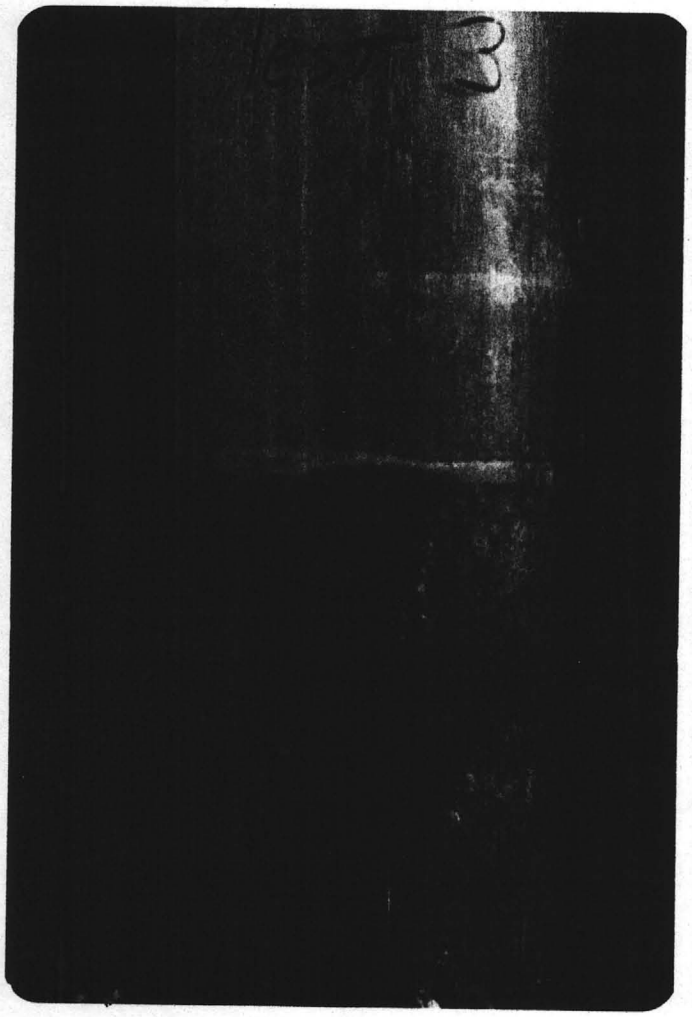
Start	27
Finish	25 1/2

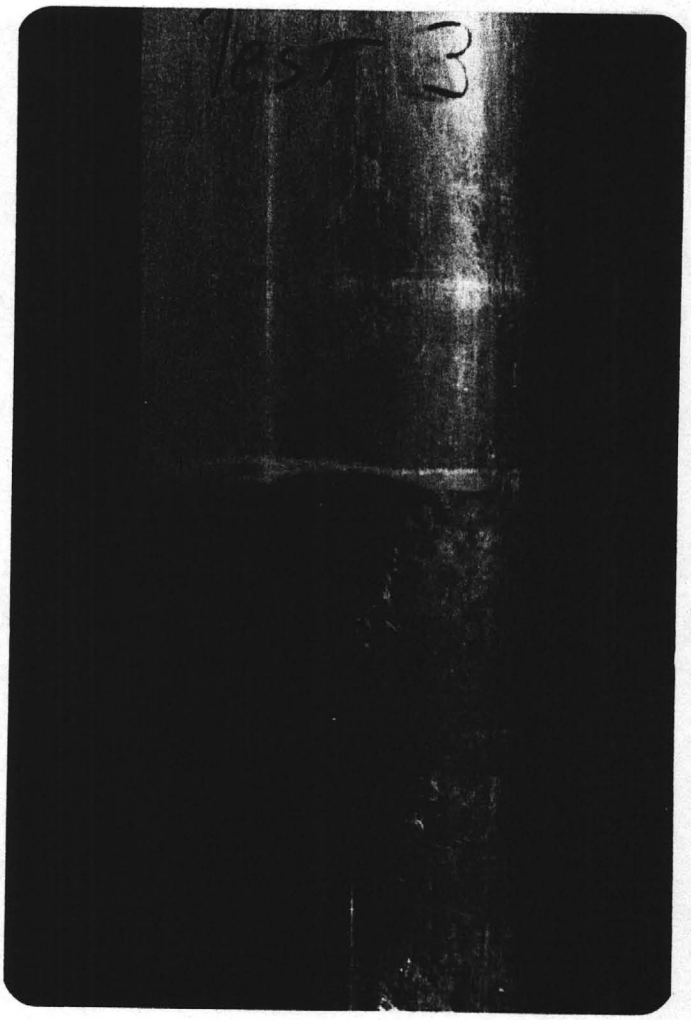
P-1042 A.F. Budge Mining Ltd.

Test 3 Vulture Mine Stamp Mill Tailings

Agglomerated With:

10 lbs Cement/Ton
5 lbs Quicklime/Ton
3 lbs NaCN/Ton



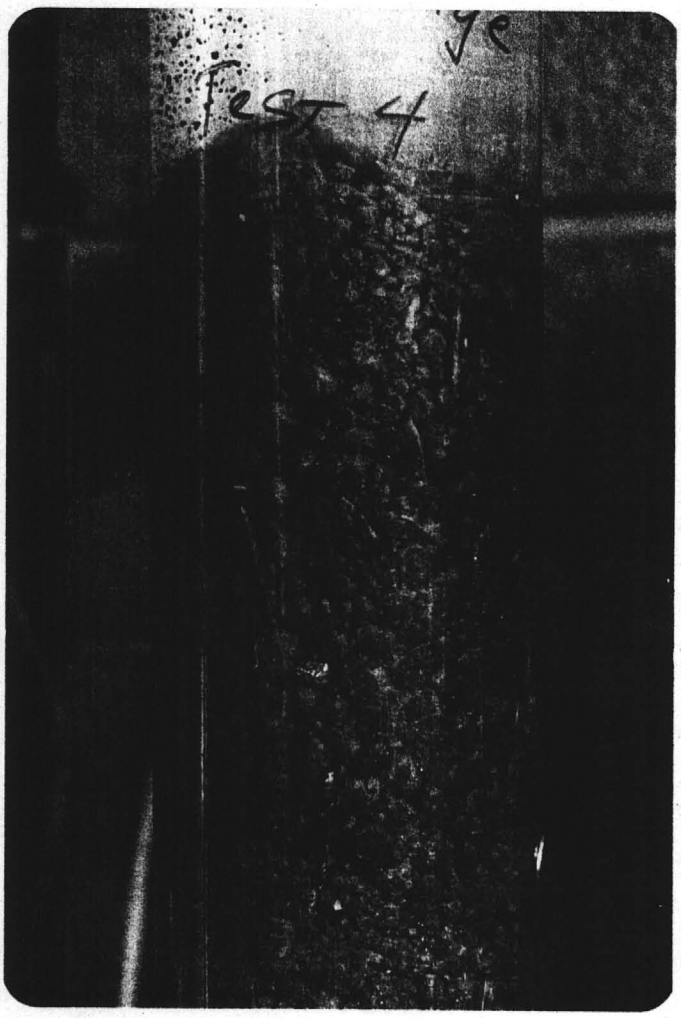


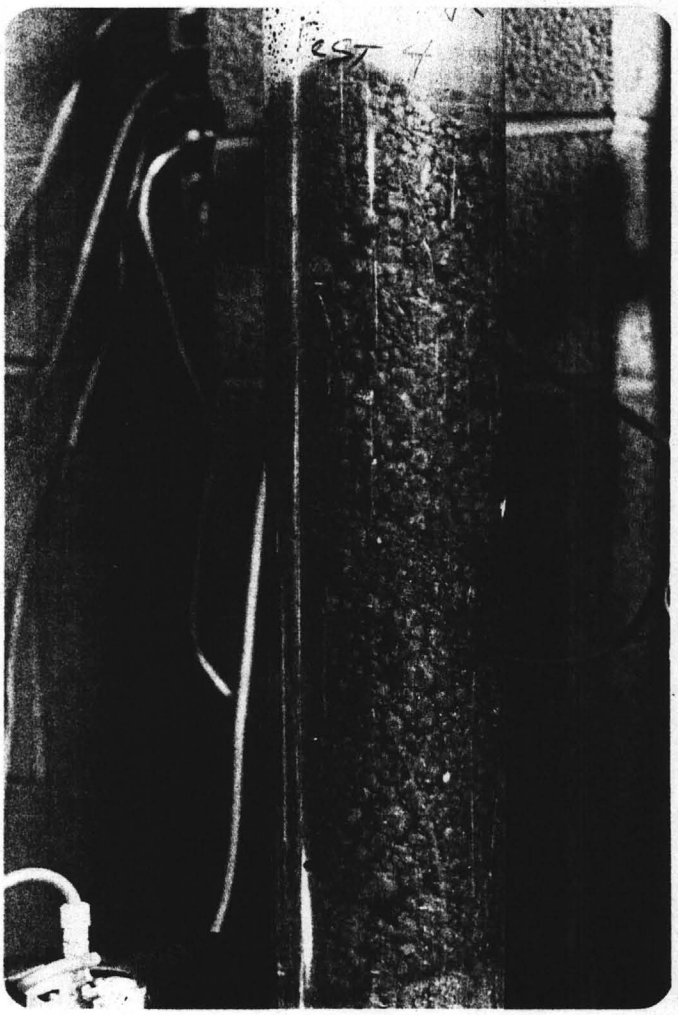
P-1042 A.F. Budge Mining Ltd.

Test 4 Vulture Mine Stamp Mill Tailings

Agglomerated With

15 lbs Cement/Ton
10 lbs Quicklime/Ton
3 lbs NaCN/Ton



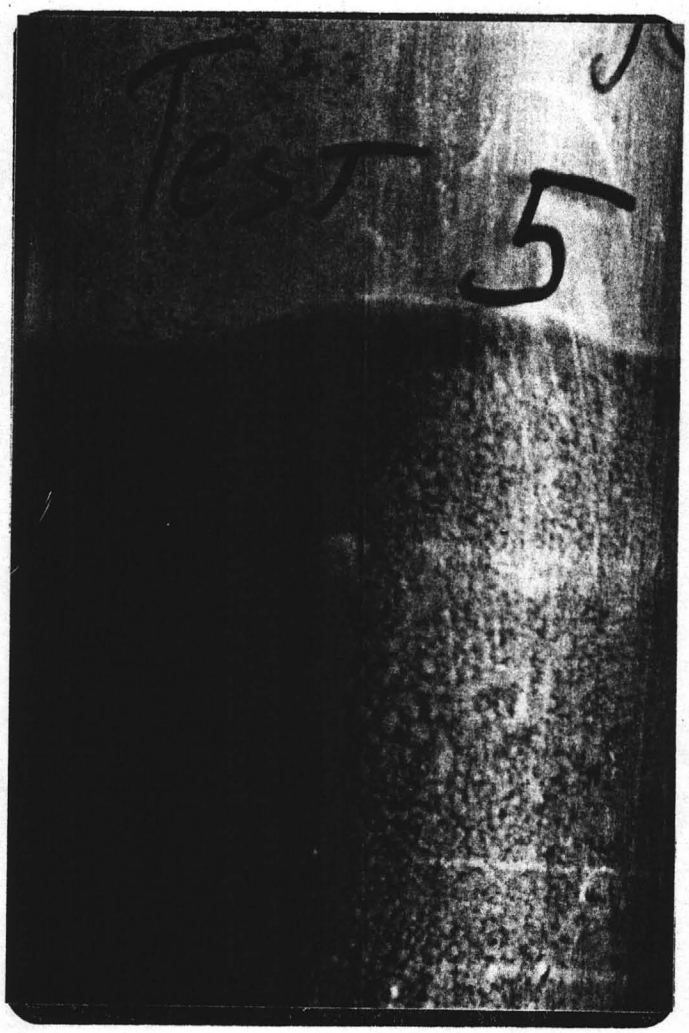


P-1042 A.F. Budge Mining Ltd.

Test 5 Vulture Mine Stamp Mill Tailings

Agglomerated With

10 lbs Cement/Ton
5 lbs Quicklime/Ton
3 lbs NaCN/Ton



Dale

M E M O

TO: Dale Allen, Carole O'Brien, Anthony Budge

FROM: Don White

DATE: May 27, 1988

SUBJECT: Vulture tailings review

The site work for the Vulture tailings heap leach is progressing rapidly. With excavation of the tails becoming imminent, Carole on May 17th asked me to help delimit just what should be excavated and what not. I was at a distinct disadvantage on this because I have had nothing to do with the tailings appraisal to date. The sampling all predated my involvement at Vulture starting September, 1984. The tails sampling was done by Milt Hood and George Hennessey and surveying by Milt and later Joe Fernandez.

On May 19 and 20 I worked up charts and plots of data from Milt Hood's map of the Sargent Hauskins Beckwith spring, 1984 auger drilling program (holes T-1 thru 57). It became apparent that some major inconsistencies existed. Only after receiving what few notes Milt had left was I able to correct all the tailings thicknesses to reflect tails only, no gravels. We still do not know, and probably never will, whether the generally 5-foot assays were truly combined tails and gravels for basal intervals or whether gravels were excluded and the reported intervals are in error. The problem, in part, is that the alluvium does carry gold of similar grade to that in the tailings, say 1 gram or .03 oz/t. It's just that the gravel probably won't handle in the process being set up for agglomeration and may not cyanide leach too well either. So it needs to be eliminated from the "tailings" reserve even though it ought to be evaluated for placer potential.

Another failing is that the old tailings work included no reproduceable points on the ground. None of the pickets labelling holes or trenches have survived. Neither have the holes or trenches themselves. That, coupled with the lack of survey control and known inconsistencies between Milt's and Joe's work, leaves me at a loss to locate anything accurately. What I have done is proceed as best I can with the 1"=100' topo base and utilize natural features to correlate Hennessey's tailings margin mapping, Pegasus' trenching, Milt's auger drilling and my own interpretations.

Correcting to eliminate gravels cut about 8% from Milt Hood's tonnage calculations. As a trade off, the grade came up slightly. The appended charts show Milt's reserve block figures, Carole's assay print out, and my interpretation for each hole.

On the contoured gold grade map it is clear that the grade distribution plumes out from the old stamp mill discharge point at the northwest. It also has thick strands of better grade filling the underlying alluvial channels. The zero thickness margin of the tails needs to be defined more accurately and hence is not on the plan.

Using strictly the area drill tested to date, and eliminating all tails less than .020 oz/t, the reserve documented thus far is as summarized on the chart. I have broken the reserve into grade categories so you can see what

the relative richness and value is for each category. The total is about 1/4 million tons at about .039 oz/t (.020 oz/t cutoff). The average thickness is about nine feet. Thus the total reserve contains about 10,000 ounces of gold which, with metallurgical recoveries of 70%, may yield about 7,000 ounces of gold or $3¼ million at todays $450/oz gold price.

What also comes out of the contouring is that the trends continue both NE and NW. The SE boundary is a sharp topographic feature that I shall map accurately. The SW boundary is a gradational one from stamp mill (amalgamation) tails to very low grade cyanide tails (basically the .020 cutoff line). But the NE boundary is open, albeit a thin veneer of tails over alluvium. The most significant undefined boundary is to the NW where both grade and thickness are best.

Newly arrived are the 1"=100' topo map and a 2-inch diameter auger which I believe will retain the tailings if they are at all moist. I recommend that I spend a few days in early June sampling the NE and NW bounds of the stamp mill tails, conducting some checks of the auger sampling against old data, and mapping the zero-thickness isopach of the tailings. Then we will have in hand the data to define what should be excavated.

Of course excavation could start at any time with the core area already known to be good grade. The final decision on how far SW to excavate is a financial one based on operating costs to establish a more accurate cutoff than my estimated .020 oz/t.

I will provide an update on this when sampling and assaying are complete, and at that time will include a more rigorous reserve chart with thickness calculated locally for each hole rather than averaged throughout a grade category.

DW:sk

Vulture Stamp Mill Tailings Reserves (1)

Grade Category	$\bar{X}$ Grade (oz/t)	$\bar{X}$ Thickness (2) (ft)	Area (ft^2)	Volume (yd^3)	Tons (3) (s.t.)	% of Tons (%)	Contained oz. Au (oz)	Recoverable oz. Au (4) (oz)	Value @ $450/oz ($)	% of Value (%)
>.05	.055	11.0	60,000	24,000	39,000	15	2,100	1,470	660,000	20
.040-.049	.045	9.8	150,000	54,000	87,000	32	3,900	2,730	1,230,000	38
.030-.039	.035	8.9	140,000	46,000	74,000	28	2,600	1,820	820,000	25
.020-.029	.025	8.1	140,000	42,000	68,000	25	1,700	1,190	530,000	17
TOTALS (5)										
>.020 oz/t	.039	9.3	490,000	166,000	268,000	100	10,300	7,200	3,240,000	100

Notes:

(1) Based upon spring, 1984 S.H.B. auger drilling (holes T-1 thru 57) select Pegasus backhoe trench sampling, Mitt Hoods tails thickness notes, Skyline and Iron King Assay reports, and Don White's contoured gold grade plan, May, 1988, accompanying.

(2) Average thicknesses from accompanying chart of data points within each grade category

(3) Tonnages based upon bulk density of 1.62 s.t./yd^3 apparently measured by S.H.B.

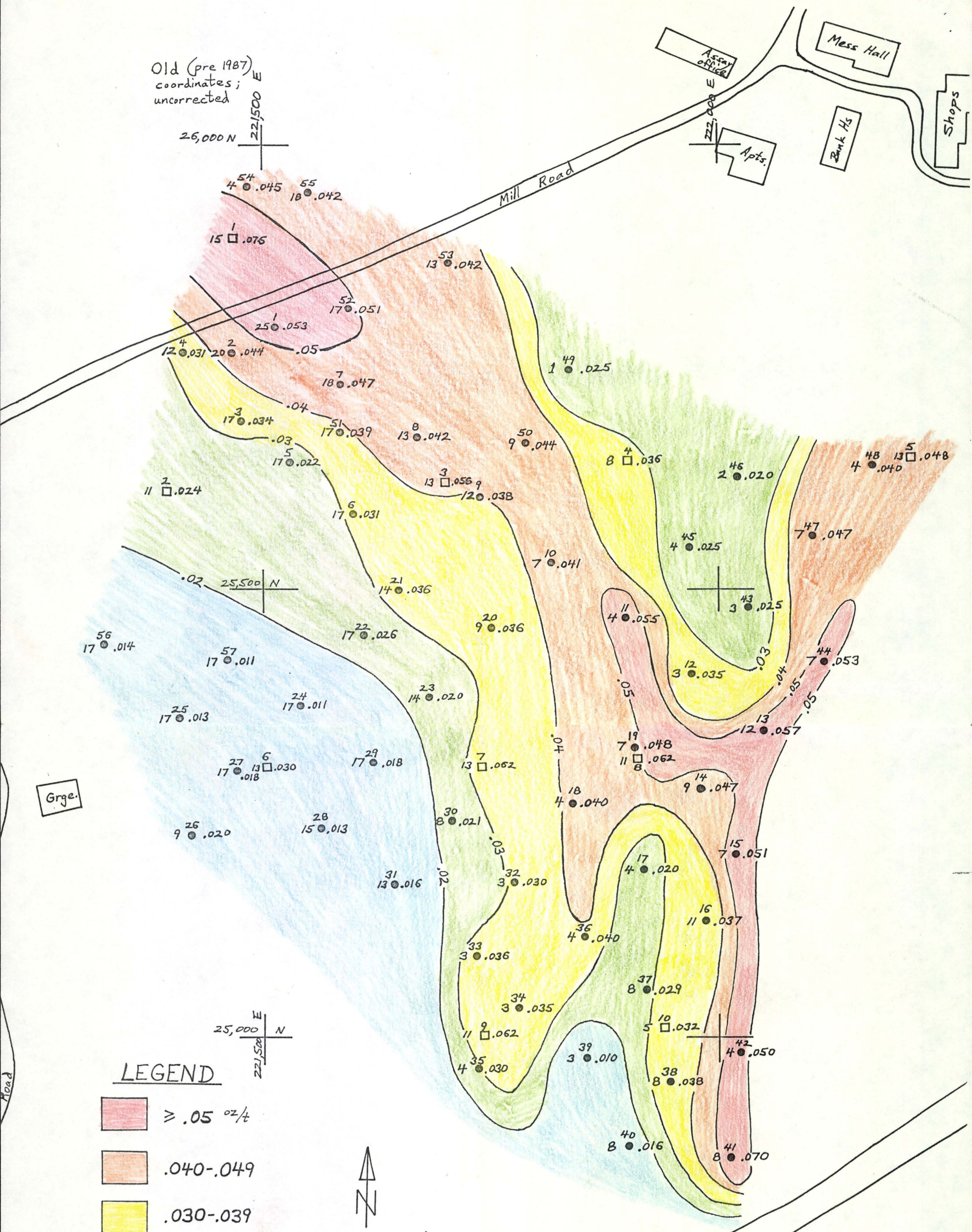
(4) Assuming 70% metallurgical recovery.

(5) .020 oz/t cutoff grade only estimated as that which will marginally exceed variable or operating costs.

Don White
May 27, 1988

Vulture Tailings

Contoured Gold Grade (oz/t)



< .02 oz/t thru > .05 oz/t by .01 oz/t

Don C. White - May, 1988

Average Thickness (T) and grade (G) for each Stamp Mill Tailings Grade Category

	≥.05		.040-.049		.030-.039		.020-.029	
	T	G	T	G	T	G	T	G
1	15	.076	4	.045	12	.031	11	.024
2	25	.053	18	.042	17	.034	17	.022
3	17	.051	13	.042	17	.039	17	.026
4	4	.055	20	.044	17	.031	14	.020
5	11	.062	18	.047	14	.036	8	.021
6	7	.053	13	.042	9	.036	4	.020
7	12	.057	9	.044	3	.030	8	.029
8	7	.051	4	.040	3	.036	1	.025
9	4	.050	7	.041	3	.035	2	.020
10	8	.070	4	.040	4	.030	4	.025
11			7	.048	11	.037	3	.025
12			7	.047	5	.032		
13			4	.040	8	.038		
14					8	.036		
15					3	.035		
Σ	110	.578	128	.562	134	.516	89	.257
X	11.0	.058	9.8	.043	8.9	.034	8.1	.023

Utilizing T-1 thru 57 auger hole data and select Pegasus backhoe trench data.

Don White
May, 1988

Vulture Tailings

Compiled by D.C. White May, 1988

Stamp Mill (amalgamation) tails sampled by S.H.B. power auger, 1982.

Hole #	T.D.	Bottom of tails	M. Hood Map		C. O'Brien Chart		D. White		Remarks
			Depth	Grade	Depth	Grade	Depth	Grade	
T-1	25	25	25	.053	Same		25	.053	IK. check .061
T-2	23	20	20	.044	20	(.046)	20	.044	
T-3	19	17	17	.034	15	(.041)	17	.034	
4	17	12	15	.035	17	.024	12	.031	Skyline check .035
5	20	17	17	.023	20	.023	17	.022	Skyline check .025
6	20	17	17	.031	20	.031	17	.031	
7	20	18	20	.048	Same		18	.047	
8	15	13	15	.040	Same		13	.042	
9	13	12	(15)	.037	13	.037	12	.038	IK. check .037
10	10	7	7	.041	10	.035	7	.041	
11	5	4	5	.055	Same		4	.055	
12	5	3	5	.035	Same		3	.035	
13	15	12	15	.052	Same		12	.057	
14	10	9	10	.048	Same		9	.047	
15	9	7	9	.048	Same		7	.051	
16	15	11	11	.037	15	.030	11	.037	
17	5	4	4	.020	5	.020	4	.020	
18	5	4	5	.040	Same		4	.040	
19	10	7	10	.043	Same		7	.048	IK. check .043
20	10	9	10	.035	Same		9	.036	
21	17	14	17	.035	Same		14	.036	
22	20	17	20	.026	Same		17	.026	
23	17	14	14	.022	15	.022	14	.020	Skyline check .018
24	20	17	17	.011	20	.011	17	.011	
25	19	17	17	.016	19	.016	17	.013	Skyline check .011
26	10	9	9	.020	10	.020	9	.020	
27	20	17	17	.020	20	.020	17	.018	Skyline check .020
28	17	15	15	.013	17	.013	15	.013	
29	20	17	17	.017	20	.016	17	.018	Skyline check .020
T-30	10	8	8	.021	10	.020	8	.021	

Hole #	T.D.	Bottom of tails	M. Hood Map		C. O'Brien Chart		D. White		Remarks
			Depth	Grade	Depth	Grade	Depth	Grade	
T-31	15	13	13	.016	15	.017	13	.016	Skyline check .015
32	5	3	5	.030	Same		3	.030	
33	5	3	5	.035	Same		3	.036	I.K. check .037
34	5	3	5	.035	Same		3	.035	
35	5	4	5	(.035)	5	.030	4	.030	
36	5	4	5	.040	Same		4	.040	
37	10	8	8	.029	10	.028	8	.029	
38	10	8	8	.037	10	.033	8	.038	I.K. check .036
39	5	3	3	.010	5	.010	3	.010	
40	10	8	8	.016	10	.015	8	.016	
41	10	8	8	.064	10	.058	8	.070	I.K. check .070
42	5	4	4	.050	5	.050	4	.050	
43	5	3	3	.025	5	.025	3	.025	
44	8	7	8	.051	Same		7	.053	
45	5	4	4	.025	5	.025	4	.025	
46	5	2	2	.020	5	.020	2	.020	
47	8	7	8	.046	Same		7	.047	I.K. check .047
48	5	4	5	.040	Same		4	.040	
49	7	1	1	(.018)	7	.020	1	.025	
50	10	9	9	.044	10	.043	9	.044	
51	20	17	20	.038	Same		17	.039	
52	18	17	18	.051	Same		17	.051	
53	14	13	13	.043	14	.041	13	.042	Skyline check .039
54	10	4	10	.048	Same		4	.045	
55	20	18	18	.042	20	.040	18	.042	
56	20	17	17	.014	20	.015	17	.014	Skyline check .015
T-57	18	17	17	.012	18	.012	17	.011	Skyline check .010

Compiled by
D. C. White
May, 1988

Vulture Tailings

Stamp mill (amalgamation) tails sampled from backhoe trencher, 1982

Backhoe Trench #	Thickness (ft)	Grade (Au oz/t)	T x G
1	15	.076	1.140
2	11	.024	.264
3	13	.056	.728
4	8	.036	.288
5	13	.048	.624
6	13	.030	.390
7	13	.062	.806
8	11	.062	.682
9	11	.062	.682
10	5	.032	.160
Σ	113		5.764
$\bar{X}$	11.3	.051	.576

Hole #	Tail. Thickness (ft)	Gold Grade (oz/t)	T x G
T-1	25	.053	1.325
T-2	20	.044	.880
T-3	17	.034	.578
4	12	.031	.372
5	17	.022	.374
6	17	.031	.527
7	18	.047	.846
8	13	.042	.546
9	12	.038	.456
10	7	.041	.287
11	4	.055	.220
12	3	.035	.105
13	12	.057	.684
14	9	.047	.423
15	7	.051	.357
16	11	.037	.407
17	4	.020	.080
18	4	.040	.160
19	7	.048	.336
20	9	.036	.324
21	14	.036	.504
22	17	.026	.442
23	14	.020	.280
24	17	.011	.187
25	17	.013	.221
26	9	.020	.180
27	17	.018	.306
28	15	.013	.195
29	17	.018	.306
T-30	8	.021	.168

T-31	13	.016	—	.208
32	3	.030		.090
33	3	.036		.108
34	3	.035		.105
35	4	.030		.120
36	4	.040		.160
37	8	.029		.232
38	8	.038		.304
39	3	.010	—	.030
40	8	.016	—	.128
41	8	.070		.560
42	4	.050		.200
43	3	.025		.075
44	7	.053		.371
45	4	.025		.100
46	2	.020		.040
47	7	.047		.329
48	4	.040		.160
49	1	.025		.025
50	9	.044		.396
51	17	.039		.663
52	17	.051		.867
53	13	.042		.546
54	4	.045		.180
55	18	.042		.756
56	17	.014	—	.238
T-57	17	.011	—	.187
Σ	582			8.254
$\bar{X}$	10.2	.033		.337

DAWSON
METALLURGICAL
LABORATORIES, INC.

P.O. Box 7685
5217 Major Street
Murray, Utah 84107-0685
Phone: 801-262-0922

August 19, 1987

A.F. Budge Mining
7340 E. Shoeman Lane
Suite 111 "B" (E)
Scottsdale, Arizona 85251-3335

Attn: Mr. Joe Fernandez

Subject: Vulture Samples Submitted to UBTL For Environmental Analysis.

Gentlemen:

In accordance with arrangements made with Mr. Joe Fernandez, samples of Vulture tailings and Vulture Mine cyanide leach residues have been submitted to UBTL for environmental analysis. A copy of our cover letter to Mr. Rand Potter is attached.

The Vulture tailing leach residue sample was an equal weight composite of P-1387 Test No. 1 and Test No. 2 leach residues (150 grams each). Data sheets describing these tests are attached for your reference: This data was reported July 8, 1987.

The Vulture Mine leach residue sample consisted of 50% QPI, 25% Hanging Wall, and 25% Foot Wall composites as described below:

P-1300: Test No. 5 (QPI Comp. No. 1): 200 Grams
P-1300: Test No. 2 (Hanging Wall Comp No. 2): 100 Grams
P-1300: Test No. 3 (Foot Wall Comp No. 3): 100 Grams

Data sheets describing these tests are attached for your reference: This data was reported February 23, 1987. The P-1300 samples described above were prepared by weight-averaging the individual leach residue assay screen fractions.

Each leach residue sample was filtered and washed three times at the end of the leach test prior to oven drying and submitting for assay.

If you have any questions or comments, please call.

Sincerely,
DAWSON METALLURGICAL LABORATORIES, INC.

Philip Thompson,
Vice President

PT-cac

DAWSON METALLURGICAL LABORATORIES, INC.

P. O. BOX 7685
5217 Major Street
Murray, Utah 84107-0685
Phone: 801-262-0922

PROJECT NO. P-1387
DATE 6/17/87
BY LA
Vulture Tailings Comp

TEST NO. 1 NAME DMEA

24 hour Leach on as Received with 10 lb/Ton NaCN Solution

Product	Weight	Assay		Units		Distribution	
		Au	Ag	Au	Ag	Au	Ag
Leach Solution	1077.3	0.033	0.10	0.3555	1.077	79.95	84.46
Leach Residue	990.7	0.009	0.02	0.0892	0.198	20.05	15.54
Head Calculated	1000.0	0.044	0.13	0.4447	1.275	100.00	100.00
Total (assayed)		0.043	0.10				

OPERATION			Start	Off								GRINDIN
TIME			2:14	24hr								PRODUC
REAGENTS - LBS PER TON												
Ore gm												
Water gm											MESH	%
Lime gm		3.0									+ 10	
NaCN gm			5.0								+ 14	
NaCN Titration, lb/T Sol'n				9.30							+ 20	
CaO Titration, lb/T Sol'n				0.6							+ 28	
NaCN Consumed, lb/T Ore				<0.05							+ 35	
Lime Consumed, lb/T Ore				5.35							+ 48	
											+ 65	
											+ 100	
MACHINE											+ 150	
R.P.M.											+ 200	
pH	6.0	11.7		11.3							+ 325	
% SOLIDS											-325	
TEMPERATURE												

REMARKS:

DAWSON METALLURGICAL LABORATORIES, INC.

P. O. BOX 7685
5217 Major Street
Murray, Utah 84107-0685
Phone: 801-262-0922

PROJECT NO. P-1387
DATE 6/17/87
BY LA

TEST NO. 2 NAME DMEA

48 hour Leach on as received with 10 lb/Ton NaCN Solution

Vulture Tailings Comp

Product	Weight	Assay		Units		Distribution	
		Au	Ag	Au	Ag	Au	Ag
Leach Solution	1069.2	0.034	0.08	0.3635	0.855	88.04	81.24
Leach Residue	987.8	0.005	0.02	0.0494	0.198	11.96	18.76
Head Calculated	1000.0	0.041	0.11	0.4129	1.053	100.00	100.00
Total (assayed)		0.043	0.10				

OPERATION			Start		Off								GRINDING
TIME			2:16		2:16								PRODUCT
REAGENTS - LBS PER TON													
Ore gm	1000												
Water gm	1000											MESH	%
Lime gm		3.0										+ 10	
NaCN gm			5.0									+ 14	
NaCN Titration, lb/T Sol'n					9.20							+ 20	
CaO Titration, lb/T Sol'n					0.1							+ 28	
NaCN Consumed, lb/T Ore					0.16							+ 35	
Lime Consumed, lb/T Ore					5.89							+ 48	
												+ 65	
												+ 100	
MACHINE												+ 150	
R.P.M.												+ 200	
pH	6.1	11.9			11.2							+ 325	
% SOLIDS												-325	
TEMPERATURE													
REMARKS:													

DAWSON METALLURGICAL LABORATORIES, INC.

P. O. BOX 7685
5217 Major Street
Murray, Utah 84107-0685
Phone: 801-262-0922

PROJECT NO. P-1300
DATE 12/19/86
BY LA
Comp #1
QPI

TEST NO. 5 NAME DMEA

72 hour Leach on -¼" Ore with 10 lb/ton NaCN Solution

Product	Weight	% Wt.	Assay	Units	Distribution
			Au	Au	Au
-1/4" +6 mesh	1524.0	30.54	0.031 *	0.0095	38.81
-6 +10 mesh	1277.5	25.60	0.034 *	0.0087	35.68
-10 +20 mesh	705.7	14.14	0.018	0.0025	10.43
-20 +35 mesh	347.0	6.95	0.030	0.0021	8.55
-35 mesh	1135.6	22.76	0.007	0.0016	6.53
Total Residue Calc	4989.8	100.00	0.024	0.0244	100.00
Leach Residue	4989.8		0.024	1.2175	37.06
Leach Solution	5044.2		0.041	2.0681	62.94
Head Calculated	5000.0		0.066	3.2856	100.00

* .899, .063 oz/ton Assays Omitted from Ave. Assay.

12/22/86

OPERATION			Leach									GRINDING PRODUCT	
TIME			9:57		9:57								
REAGENTS - LBS PER TON			Start		Off								
Ore -¼"	5000												
Water	5000											MESH	%
Lime		4.0										+ 10	
NaCN			25.0									+ 14	
NaCN Titration					8.5							+ 20	
CaO Titration					0.1							+ 28	
NaCN Consumption, lb/T Ore					1.42							+ 35	
Lime Consumption, lb/T Ore					1.5							+ 48	
												+ 65	
												+ 100	
MACHINE												+ 150	
R.P.M.												+ 200	
pH	8.8	11.9			10.6							+ 325	
% SOLIDS	50		50									-325	
TEMPERATURE													
REMARKS:													

DAWSON METALLURGICAL LABORATORIES, INC.

P. O. BOX 7685
5217 Major Street
Murray, Utah 84107-0685
Phone: 801-262-0922

PROJECT NO. P-1300
DATE 12/8/86
BY PA

TEST NO. 2 NAME DMEA Composite #2 Comp #2 Hanging Wall

72 hour NaCN Leach with 10 lbs/ton NaCN Solution

Product	Weight	% Wt.	Assay		Units		Distribution		
			Au	Ag	Au	Ag	Au	Ag	
-1" +3/4"	258.4	5.22	0.011	0.03 *	0.0006	0.002	2.36	5.22	
-3/4" +1/2"	1305.6	26.40	0.044	0.03	0.0116	0.008	47.68	26.40	
-1/2" +1/4"	1371.7	27.74	0.014	0.03	0.0039	0.008	15.94	27.74	
-1/4" +6 mesh	603.7	12.21	0.031	0.03	0.0038	0.004	15.53	12.21	
-6 mesh + 10 mesh	223.8	4.53	0.015	0.03	0.0007	0.001	2.79	4.53	
- 10 mesh	1182.5	23.91	0.016	0.03	0.0038	0.007	15.70	23.91	
Total Residue (calc)	4945.7	100.00	0.024	0.03	0.0244	0.030	100.00	100.00	
Leach Residue	4945.7		0.024	0.03	1.2068	1.484	41.67	74.35	V1C
Leach Solution	5119.3		0.033	0.01	1.6894	0.512	58.33	25.65	
Head Calculated	5000.0		0.058	0.04	2.8961	1.996	100.00	100.00	

* Ag Assays below Detectable Level

12/8/86

OPERATION			Leach		72hrs							GRINDING
TIME			9:53		9:53							PRODUCT
REAGENTS - LBS PER TON			Start		Off							
Ore gms	5000											
Water gms	5000										MESH	%
Lime gm		4.0									+ 10	
NaCN gm			25.0								+ 14	
NaCN Titration lb/T Sol'n					7.7						+ 20	
Lime Titration lb/T Sol'n					None						+ 28	
NaCN Consumption lb/T Ore					2.1						+ 35	
Lime Consumption lb/T Ore					1.6						+ 48	
											+ 65	
											+ 100	
MACHINE											+ 150	
R.P.M.											+ 200	
pH	8.0	11.6			10.3						+ 325	
% SOLIDS											-325	
TEMPERATURE												
REMARKS:												

DAWSON METALLURGICAL LABORATORIES, INC.

P. O. BOX 7685
5217 Major Street
Murray, Utah 84107-0685
Phone: 801-262-0922

PROJECT NO. P-1300
DATE 12/8/86
BY PA

TEST NO. 3 NAME DMEA Composite #3

Comp # 3
Foot Wall

72 hour NaCN Leach with 10 lbs/ton NaCN Solution

Product	Weight	% Wt.	Assay		Units		Distribution		V1
			Au	Ag	Au	Ag	Au	Ag	
-1" +3/4"	36.3	0.73	0.021	0.02 *	0.0002	0.000	1.84	0.73	
-3/4" +1/2"	390.7	7.81	0.021	0.02	0.0016	0.002	19.85	7.81	
-1/2" +1/4"	605.2	12.10	0.021	0.02	0.0025	0.002	30.75	12.10	
-1/4" +6 mesh	336.0	6.72	0.020	0.02	0.0013	0.001	16.26	6.72	
-6 mesh + 10 mesh	203.5	4.07	0.013	0.02	0.0005	0.001	6.40	4.07	
- 10 mesh	3428.3	68.57	0.003	0.02	0.0021	0.014	24.89	68.57	
Total Residue (calc)	5000.0	100.00	0.008	0.02	0.0083	0.020	100.00	100.00	
Leach Residue	5000.0		0.008	0.02	0.4150	1.000	25.70	40.00	V1
Leach Solution	5000.0		0.024	0.03	1.2000	1.500	74.30	60.00	
Head Calculated	5000.0		0.032	0.05	1.6150	2.500	100.00	100.00	

* Ag Residue Assays below Detection Limit

OPERATION			Leach		72hrs								GRINDING PRODUCT
TIME													
REAGENTS - LBS PER TON			Start		Off								
Ore gm	5000												
Water gm	5000											MESH	%
Lime gm		4.0										+ 10	
NaCN gm			25.0									+ 14	
NaCN Titration lb/Ton Sol'n					7.8							+ 20	
Lime Titration lb/Ton Sol'n					None							+ 28	
NaCN Consumed lb/Ton Ore					2.2							+ 35	
Lime Consumed lb/Ton Ore					1.6							+ 48	
												+ 65	
												+ 100	
MACHINE												+ 150	
R.P.M.												+ 200	
pH	8.0	11.5			10.3							+ 325	
% SOLIDS												-325	
TEMPERATURE													
REMARKS:													

M E M O

TO: R.R. Short, C.A. O'Brien, A.F. Budge, D.A. Allen

FROM: Don White

DATE: December 29, 1988

SUBJECT: A summary of exploration target types at and about the Vulture Mine, Arizona

Summary

An attempt is made here to define all the possible exploration targets around the Vulture Mine and determine which ones justify further effort. It is recommended that preliminary studies be started on two target types of major potential. One is the fault extension(s) which need a thorough data compilation and structural analysis at a cost of about $10,000. The other is the search for "blind" or alluvial-covered Vulture-like lodes by geophysical means and for that the help of a top notch geophysicist must be sought. An initial investment of $10,000. for that would determine whether or how to proceed. At stake is possibly a Vulture-scale, 350,000 ounce gold discovery.

Introduction and purpose:

A.F. Budge (Mining) Ltd. has been the lessee of the Vulture Mine patents and contiguous nine square miles of unpatented claims for four years. They have searched for open-pitable gold in the old pit area, tested some of the placer potential, experimented with the search for blind, alluvial-covered repeats of the Vulture lode, and evaluated the tailings. Only the tailings are known to be economic and on agglomeration/heap-leach cyanidation reprocessing scheme is now in progress.

The available tailings will be completely exhausted over the course of 1989 so that by early 1990 a decision will be pending as to the disposition of the lease. Either there is some justification to hold it at that time or else it should be dropped and the holding costs eliminated.

Thus any other targets or further exploration on Budge's behalf must be completed over the coming year. Anthony Budge's request is that "no stone be left unturned." Hence this memo to review what is known, define the targets remaining, consider how they may be tested, and appraise their merits on the basis of discovery potential versus exploration costs.

The Vulture Lode:

The Vulture Mine was principally an underground lode deposit. It yielded about 350,000 ounces of gold and 250,000 ounces of silver from about 1 million tons of mined quartz vein rock. Overall grades were thus 0.35 oz/t Au and 0.25 oz/t Ag but evidence indicates that early production from the oxide zone was substantially higher grade while the larger tonnage, sulfide ore production brought the grade averages down. Either way, at todays metal prices, a lode deposit of its type would be a lucrative find. Its metal content would have

a gross value of over $140 million.

The salient history of the Vulture, in outline form is,:

1) 1863 discovery and early oxide zone high grading with haulage of ores to Wickenburg and Smith's Mill on the Hassayampa River for arrastra and/or stamp milling and mercury amalgamation treatment.

2) 1880 commencement of on-site stamp milling and amalgamation. Deep underground mining.

3) 1917 loss of the vein zone against the Astor fault.

4) 1930's U.G. cleanup and partial cyanidation of earlier tailings.

5) 1942 shutdown.

6) Early 1980's mapping by Noranda and drilling/sampling by Pegasus.

7) 1984+ evaluation by Budge of open-pitable lode potential, stamp mill tailings and placer reserves, and some drill testing of alluvial-covered targets suspected to be blind lodes.

Results of exploration on behalf of Budge have culminated in an understanding of the Vulture geology that is more thorough and better supported than ever before. We are quite certain that the crucial event in the creation of the Vulture lode was intrusion of the Vulture stock in earliest Laramide time. That stock had at its cupola a sill-like apophysis which hosted and/or focused all the known quartz veins. Those veins occurred within the sill, particularly at its margins, and emanated into the immediately adjacent Precambrian volcaniclastic wall rocks, particularly the hanging wall. It is those quartz veins that carry the higher grade gold as native metal and electrum associated with minor disseminations of the sulfides galena, pyrite, and chalcopyrite.

The sill and the quartz veins are all semi-conformable to the bedding and foliation of the Precambrian host rocks. The sill and quartz veins have yielded a distinctive alteration pattern of sericite, disseminated pyrite, and silica flooding. The latter makes the lode area more resistant and hence a topographic high that begged discovery as "Vulture ridge."

Evidence for this interpretation includes structural and petrographic work, and also radiometric age dating. Both the stock and sill date at 85-90 million years before the present by two methods. Thus we have a clearly epigenetic vein system of late Cretaceous or earliest Laramide age. This constitutes a target type of known characteristics and exploration for Vulture-like deposits can take advantage of that understanding.

Geologic events subsequent to the formation of the Vulture lode have complicated the picture. One phenomena has been the post-mineral faulting of the vein into a number of segments by two sets of faults. The more major set is the series of northwest-trending, steeply northeast-dipping normal faults. The Talmage fault

of that set has an offset of over two hundred feet and forced a several year hiatus in mining until the next segment was found. The segment beyond the Astor fault, if it exists, has never been found.

Tertiary volcanic activity blanketed much of the area to the north and east with basalt, volcanic agglomerate and tuffs. Post-Tertiary regional tilting has rotated the Vulture lode from its original cupola position with respect to the stock to an apparent east flank position. The Tertiary volcanics have been tilted 20 to 80 degrees to the east of their primary position.

Erosion has then cut through Tertiary, Cretaceous and Precambrian rocks, all the way into the Vulture lode, yielding a mixed bag of alluvium covering nearly everything south of the Vulture lode and even coming close to burying the Vulture lode except for the relief of Vulture ridge. A by-product of this erosion was gold placers, particularly just south of the Vulture.

Target types:

An outline of the various target types classified by natural, engineering, and exploration parameters follows:

A. Lode

1. Known Vulture lode

   a. Open pitable reserves
   b. Underground fault extension

2. Other Vulture-like lodes

   a. About Vulture stock

      i Outcropping
      ii Buried by alluvium and/or volcanics

   b. About Cañon City stock

      i Outcropping
      ii Buried by alluvium and/or volcanics

   c. About Hartman Wash stock

   d. About other as yet unrecognized stocks

3. Other lode deposits, not Vulture-like

   a. Within Vulture or kindred stocks
   b. Within Precambrian rocks
   c. At unconformity beneath Tertiary units

B. Placer

1. Partially tested area beneath stamp mill tailings.

2. Further and wider from Vulture ridge.

C. Waste from earlier mining

1. Mine waste dumps

2. Tailings

a. Stamp mill tailings

i Wickenburg
ii Smith's Mill
iii Seymour
iv Vulture townsite

b. Cyanidation tailings

Some discussion of each of the target types is necessary to consider their realtive merits for further exploration. Let us consider them in order.

A1a Open-pitable reserves about the known Vulture lode -- This was the main focus of Pegasus' efforts and most of the drilling by Budge. Milton Hood was apparently involved in the latest Pegasus work and early Budge drilling and calculated reserves (1985) as:

Reserve	Tons	Grade	Contained Ounces
Proven	283,000	.066	18,700
Probable	66,000	.056	3,700
Dilution	35,000	.025	800
P.t. Total	384,000	.060	23,200

This was for a pit depth of 115 ft., a cutoff grade of .030 oz/t, and allowing for 10% dilution by .025 oz/t rock, all at 12 ft^3/s.t.

I have been involved in all the subsequent drilling to that which Milt Hood had to go by. I have logged the lithologies, structures, and workings, none of which had been done prior to my involvement. With the improved geologic understanding, I dispute Milt's interpretation and reserve figures. He correlated good assays over far too long distances, without regard for rock type changes and intervening faults. My own more detailed work, with more holes to go by as well, indicates about 100,000 tons in the 0.04 to 0.06 oz/t Au range. The best zone within that is less than 10,000 tons at about 0.08 oz/t between pits 1 and 2.

All the indications are that such grades can not be profitably mined because of the low recovery rates (only up to 50%) despite costly fine grinding (minus 200 mesh).

There are approximately 80 holes in this target. The drilling density (spacing of 50 to 100 ft between holes) and coverage (complete from stock to Astor fault and surface trace to open pit depth limits) are such that nothing remains to be tested that could significantly change that reserve. It has been viewed as a dead target type for over two years and I see no change in that.

A1b Underground fault extensions of the formerly mined Vulture lode -- These too have been recognized in the past and tested to various degrees. Three theoretical segments with exploration potential have been recognized. One was the so-called "Block I" (Hodder and White, Dec. 14, 1985 and White, May 15, 1986) or a step-like repeat of the oxide zone parallel to and just south of Vulture ridge. This target was geophysically surveyed and drilled and found not to exist.

The mined Vulture lode was two main segments, one footwall and one hanging wall to the Talmage fualt. The hanging wall segment required several years worth of winzing,crosscutting, and drifting before being located some 210 ft. down-dip and 150 ft right-lateral across the Talmage fault. After the Astor fault was encountered, a goodly amount of effort was expended on underground exploration to pick up the next segment. It was never found but that effort is syspected to be in the wrong area. A thoroughly diagnosed structural appraisal would better direct any future effort.

Two segments east of the Astor fault may be sought. One is from the Astor to the Schoolhouse fault and the next is east of the Schoolhouse fault, beneath about 400 feet of Tertiary volcanics and an undetermined thickness of Precambrian. Either of these segments could be as large as all the rest of the Vulture mined to date.

A note of caution, however; as we pointed out in an appraisal of targets three years ago (Hodder and White, Dec. 14, 1985) there is some reason to doubt that there is any extension at all. The mineralization of the Vulture vein system died out short of the Astor fault. Only subeconomic vein was truncated by the fault. Exploration beyond the fault will require faith that dead spots occur in the vein and that it can be better grade beyond. I feel this is legitimate. Indeed, there are ore shoots in the Vulture with lean zones between.

To explore either of the fault segments a number of exercises are recommended. One is thorough research of the old reports, logs, maps, and sections. Another is fabrication of the mine model long recommended to work out the structural complexities. We're talking in terms of individual faults but there are in fact several sets of variously oriented faults, all cross-cutting each other and the veins. A model is the surest way to come to grips with these problems.

Physical evidence may possibly be obtained down either the Douglas Shaft and/or the presently flooded levels of the old Vulture. Professional climbing help would be needed to reach the bottom of the Douglas Shaft from which mapping

and sampling would be valuable. Such help can be hired. The West Incline is flooded up to 650 level. A careful inspection of the limits of navigation eastward on the 600 level would tell whether dewatering is useful there. The only connections to the 750 level are via the E incline, caved above but possibly open from 600 to 750. Deeper levels, if dewatered may then be accessed by winzes from the 750 to 850 and 850 to 950.

If the various analyses indicate any block(s) of untested ground with potential, a diamond core drilling program would be needed to test the target(s). Several holes of about 1,000 feet in depth are likely. But complete data compilation, including the mine model, is the first prerequisite to determine whether one or more targets truly do exist. Data compilation would require 1-2 man months or $5-10,000. Drilling would cost a minimum of $100,000 (three 1,000-ft. holes at $30/ft.) and likely more than that to pursue leads so developed.

A-2 Other Vulture-like lodes -- This discussion includes both outcropping and blind targets and those about the Vulture stock and kindred stocks of the same lithology and age. The possibility of outcropping high grade gold in quartz veins has been well investigated by old-time prospectors, by Pegasus' sampling program, and by Budge's support of reconnaissance efforts at the Hartman Wash and Cañon City stocks. There are no outcropping Vulture-like lodes.

The Hartman Wash pluton appears both slightly different in petrography and virtually devoid of quartz veins or any hints of alteration like the Vulture stock. Thus it is eliminated from further consideration.

The Cañon City stock has been traversed only. It is suspected to be as fertile as the Vulture stock for it harbors visible gold in quartz up to two feet thick in its core, just like the Vulture stock. Its margins, however, where Vulture-like lodes would form, are all concealed, some by alluvium, but most by Tertiary volcanics. Thus the real issue is blind or covered deposits.

Beneath cover geophysics must be considered and we have high resolution helicopter magnetics data flown and interpreted for Budge in early 1986. From it we recognize some magnetic lows extending east from the buried Vulture stock, parallel to the Vulture lode, and of similar length. In hope that they were other quartz porphyry apophyses, ten reverse circulation holes were drilled in Feb.-Mar. 1987 under Peter Hahn's supervision. None of the holes on any of the three targets found any convincing plutonic rocks or mineralization. Thus all three targets are believed to be low-magnetic interbeds within the Precambrian stratigraphy. The ideas were good and are still good. Those three targets just aren't it. The next one may be!

One either finds other geophysical tools to corroborate or better sort out the magnetic targets, or resign themselves to drill-testing a number of exclusively magnetic targets. What I would like to see is a good method to determine whether a Vulture-like ridge coincides with any magnetic lows. The combination would make an even better drill target. We were close to

attempting a shallow, high-resolution, micro-seismic survey on the three drilled mag targets before realizing that they were so shallowly covered that the travel times could not be resolved. Also, at such shallow depths, the direct drill testing of targets was plenty cheap.

Taking the blind target program further, however, should utilize either seismic or ground-penetrating radar to locate bedrock ridges beneath alluvium or volcanics. A crew and equipment for either technique costs about $1,500. per day and a week would be the minimum initial test of such a system. That is about $10,000. Drill testing thereafter could be by reverse circulation holes at $10./ft. A hypothetical program of ten holes, 300 ft. each would cost about $30,000.

Exploration should proceed from the Vulture south, retesting the initial three magnetic lows, and then extending beyond the present claim block. The economic limit of cover thickness must be decided. My guess is that at least 200 ft. of alluvium may be considered as stripable for a Vulture-size target. That should open up several geophysical targets.

The search for and testing of blind targets is a tedious, expensive process that should not be attempted in a hurry. Every scrap of evidence has to be gleaned to guide exploration. Some geophysical techniques may turn out to be expensive failures but they are the best tools available and will have to be attempted. Top notch geophysicists are a must and I can recommend some.

A-3 Other lode deposits, not Vulture-like -- Thinking has focused on three non-Vulture-like target types. One is auriferous quartz veins within the quartz monzonite stocks themselves, as oppossed to sill-related like the Vulture. Occurrences like this are known in the Vulture stock and in Cañon City stock. The best Vulture stock veins have been sampled and found to be vein-confined without any disseminated gold. The veins themselves have been deemed too thin (2" to 12") to be mined or diluted. The Cañon City vein, however, is up to 2 ft. thick and wall rock there has not been sampled. Some check for disseminated gold and the possibility of a drillable high-grade target should be made. The sampling of walls and dumps would cost about $500. Drilling, if decided upon, could be reverse circulation in conjunction with the drill testing of one of the other target types. A total of 1,000 feet would cost about $10,000. plus up to $5,000. for dozer work and assays.

The possibility of sygenetic gold in the Precambrian sequence seems remote at best. The Proterozoic volcanics are notably barren, as learned by early prospectors, Pegasus' efforts and minor efforts for Budge. No further consideration is justified for this.

Robert W. Hodder noted the possibility (letter of Jan. 2, 1986) of unconformity-related gold and sulfides at the base of the Tertiary volcanics or near the top of the pre-Tertiary erosion surface. Indeed gold was identified in two drillholes and a well near the Douglas Shaft in 1930. The succeeding shaft (1931) with exploration headings about 100 feet beneath the drilled gold apparently

found little. It's possible that a zone of abundant hematite/specularite, secondary quartz, and occassional gold reported in the drill holes could be a nearly flat-lying deposit up to 50 feet thick. If so, and beneath 400 feet of Tertiary cover, an 8:1 stripping ratio is indicated. This target could be tested as a byproduct of any drilling for fault extension targets between the Schoolhouse and East faults. Alternatively, if fault extensions are not sought, four 500-ft. reverse circulation holes into the graben would cost about $20,000.

B Placer potential -- The placer potential was tested on a reconnaissance basis N, E, and S of Vulture ridge by James Prudden using a portable sizing and washing plant with sluice. His report of Jan. 23, 1985 identified the area now being exumed by the removal of stamp mill tailings as having potential for 120,000 yd^3 grading about 0.5 g/yd^3. That is 2,000 ounces of gold with a 1:1 stripping ratio in the gravels alone (i.e., after removal of all tailings, then 5 ft. barren gravels stripped to recover 5 ft. of pay gravels). The more complete analysis of advantages and disadvantages of this target are summarized in my recent memo (Oct. 18, 1988).

C-1 Mine waste dumps -- These are much too small to constitute a target unto themselves. Most of the dumps were reportedly milled and cyanided by the Dickie operation in the late 1930's. Only a few thousand tons remain in pits 1 and 2 and nearby on the surface. They have not been sampled but could be at minimal cost in hope that some leachable gold may occur in enough tons to make it worth adding to the existing tailings heap leach.

C-2 Tailings -- These were recognized early on as a small but potentially lucrative reserve of leachable gold. The stamp mill tailings on site are the object of the present operation. They are being agglomerated and stacked at the rate of 1,000 tons per day and heap leached with recovery now reaching the target 100 ounces gold per week. The reserve has been auger-drilled and estimated at 215,000 tons at .037 oz/t or 5,500 recoverable ounces gold at 70% recovery. There is also about 150,000 tons grading 0.014 oz/t that may or may not be economic.

The gold grade distribution, silver distribution, thickness variability and reserve calculations are all contained in my memos of July 8, July 21, October 21, and October 25, 1988.

The on-site cyanide tailings contain so little remaining leachable gold that they are not economic.

Consideration was given to tailings at earlier mill sites. The original Vulture mill site in Wickenburg was partly washed away by floods. The remainder was trucked to Asarco's Hayden smelter as auriferous silica flux in the 1950's. The Smith's mill site has only some 3,000 tons of .03 oz/t remaining after flood erosion. Its poor road access renders it uneconomic as an add-on to the mine-site tailings. And finally, the tailings at Seymour have been fully washed away by the Hassayampa River. Thus the stamp mill tailings at the mine site are it. There are not even any other mines in the district with any tailings.

Conclusions

Consider again our outline of target types in light of the previous discussion.

A. Lode

1. Known Vulture Lode

a. Open pitable reserves

- ~ 100,000 s.t. @ .05 oz/t Au (~5,000 oz, only 2,500 recoverable)
- Including ~ 10,000 s.t. @ .08 oz/t Au
- Completely drill tested
- Poor leachability (~50%) despite 200 mesh grind
- Not economic

b. Underground fault extensions

- Two target segments up to 350,000 oz each
- Prerequisite comprehensive structural analysis, $10,000
- First stage drilling 3 holes - $100,000

2. Other Vulture-like lodes

a. About Vulture stock

i Outcropping - none
ii Buried

- Geophysical targets based upon areamag. Need geophysical consultant, maybe $10,000
- Need corroborative radar imagery or shallow seismic profiling at ~ $10,000
- Drill testable for ~$30,000

b. About Cañon City stock

i Outcropping - none
ii Buried - need geophysical advice

c. About Hartman Wash stock

- Not right composition, no veins

d. About other as yet unrecognized stocks

- Need geophysical advice

3. Other lode deposits, not Vulture-like

a. Within Vulture or kindred stocks

- Small, high grade, discontinuous and subeconomic veinlets in the Vulture stock
- Cañon City vein up to 2 ft. with visible gold; ought to be evaluated as drill target and sampled for low grade halo.

b. Within Precambrian rocks - no encouragement

c. At unconformity beneath Tertiary units

- May explain gold reported in drilling near Douglas shaft
- Could be sampled in course of deep fault ext'n drilling, same area, or by 4 holes for ~ $20,000

B. Placer

- 120,000 yd^3 @ 0.5 g/yd^3 or ~2,000 oz Au postulated
- Too small reserve for plant costs
- Could be subleased, contracted

C. Waste from earlier mining

1. Mine waste dumps

- Only a few thousand tons
- Worth sampling in case heap leachable

2. Tailings

a. Stamp mill

i Wickenburg - all used up
ii Smith's Mill - 3,000 s.t. @ .03. Uneconomic recoveries and haulage costs.
iii Seymour - all washed away
iv Vulture townsite

- 215,000 s.t. @ .037 (~5,500 oz. recoverable)
- 150,000 s.t. @ .014

b. Cyanide tailings - no more recoverable Au

The economic significance of the various target types must be kept in perspective. The tailings now being reprocessed will yield about 5,500 ounces of gold. The placer potential, far from proven, is less than half that. The fault extension targets or blind Vulture-like lodes, however, each have potential for being over 100,000 ounces or about 350,000 ounces if similar to the Vulture in size.

Only the fault extension or blind target possibilities are worth major efforts. The other target types are either little known and difficult to quantify but modest (i.e., unconformity hosted Au) already studied and uneconomic (i.e., open-pit lode reserves) too small to consider independently (i.e., placers, waste dumps) or demonstrably non-existent (i.e., other tailings).

Recommendations

I recommend the basic steps be taken in pursuit of the two target types of major financial potential, the fault extension(s) and blind target(s). The basic steps are about $10,000 expense for each target type and will help decide whether they are worth taking onward to the more expensive testing stage.

Prerequisite to any search for fault extensions is a comprehensive structural analysis. This must include compilation of all available data and fabrication of a model to understand the complexities of multiple, intersecting structures. I would like to do this chore. When near complete, I may want to get advice from Bob Hodder and/or Paul Lindberg. The culmination of such study would be advice on whether or not it's worth testing, and if so where and how.

The search for blind Vulture-like targets is a difficult but high stakes geophysics exercise that must be very geologically oriented. The geologic understanding of the Vulture must be the guide and a geophysicist willing to learn and apply that understanding is crucial. For about $10,000 we ought to be able to get lots of good interpretation of our aeromagnetics and steering on the use of radar and/or seismics.

Some incidental time and expense should be devoted to sampling of waste dumps and the Cañon City vein. The main thrust, however, should be the total $20,000 allocated to determine whether the major targets are likely to exist and, if so, how to find them.

These studies would best be completed by summer, 1989, so that field work, if warranted, could be done in the fall and allow for drilling in the winter. Thus recommendations on the disposition of the lease could be made in early 1990.

DW:sk

Certificate of Analysis

CERTIFICATE NO. 89-126-C

MOUNTAIN STATES
R & D INTERNATIONAL, INC.

PROJECT NO. 1122

DATE 3-21-89

MSRD NO.	SAMPLE IDENTIFICATION			Au Oz/T	Ag Oz/T				
5828	20-26	½		0.001	0.01				

STATEMENT OF CHARGES. INVOICE WILL FOLLOW.

	Fire Assay		
1	Au&Ag Sample	@ $16.00 :	$ 16.00
1	Prep	@ $ 4.00 :	$ 4.00
		@ $:	$
		@ $:	$

		@ $:	$
			$
		@ $12210 :	$
			$

Total Charge $ 20.00

ND (None Detected)

REGISTERED ASSAYER CERTIFICATE NO. MARVIN D. SCHLOATMAN DATE SIGNED 3/21/89 Arizona U.S.A.

Marvin D. Schloatman

Registered Assayer

mard-08

IRON KING ASSAY INC.

15-Mar-89

LAB JOB #: AFB03817

Client name: A.F.Budge Mining Ltd.

Billing address: 4301 N. 75th St.
Suite 101
Scottsdale, AZ 85251-3504

Phone number: 376-9056

No. Samples: 63
Date Received: 03-08-89
Submitted by: D. Allen

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID AFB03817	Lab ID		FA/AA Au oz/ton	
1A	3817-	1	0.017	.116
2A	3817-	2	0.011	.003
3A	3817-	3	0.012	.030
4A	3817-	4	0.004	.021
5A	3817-	5	0.003	.016
6A	3817-	6	0.004	<.001
7A	3817-	7	0.005	.002
8A	3817-	8	0.010	.013
9A	3817-	9	0.005	.006
10A	3817-	10	0.007	.010
11A	3817-	11	0.006	.029
12A	3817-	12	0.005	.002
13A	3817-	13	0.021	.018
14A	3817-	14	0.013	.008
15A	3817-	15	0.008	.003
16A	3817-	16	0.006	.006
17A	3817-	17	0.016	.013

REGISTERED ASSAYER CERTIFICATE NO. 14715 ROBERT G. HOOK

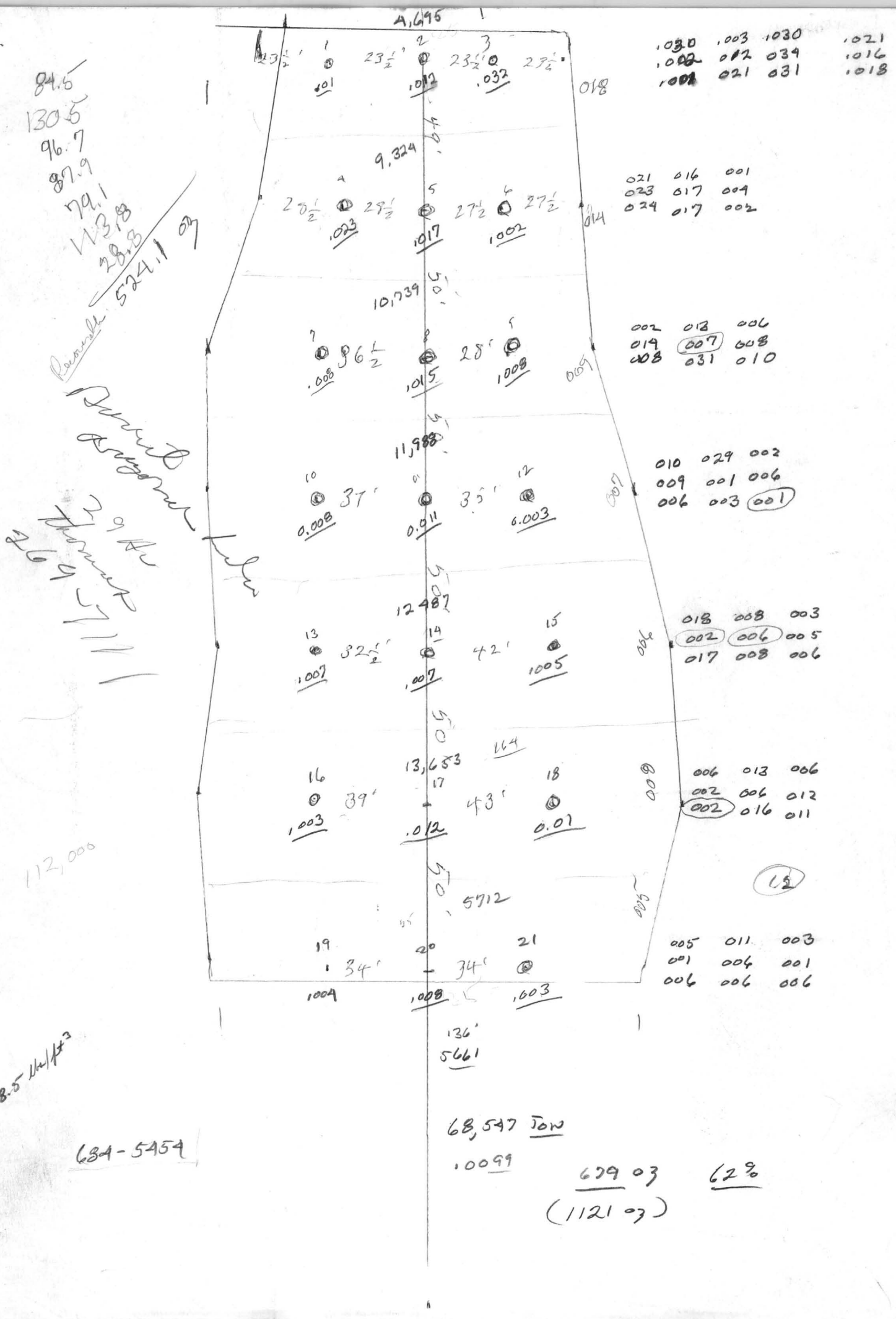
3-20-89

Client ID AFB03817	Lab ID	FA/AA Au oz/ton	
✓ 18A	3817- 18	0.013	.006
19A	3817- 19	0.008	.005
20A	3817- 20	0.014	.011
21A	3817- 21	0.005	.003
✓ 1B	3817- 22	0.019	.002
✓ 2B	3817- 23	0.028	.012
✓ 3B	3817- 24	0.021	.034
✓ 4B	3817- 25	0.008	.023
✓ 5B	3817- 26	0.006	.017
6B	3817- 27	0.006	.004
✓ 7B	3817- 28	0.004	.014
8B	3817- 29	0.010	.007
9B	3817- 30	0.006	.008
10B	3817- 31	0.007	.009
✓ 11B	3817- 32	0.005	<.001
12B	3817- 33	0.006	.006
13B	3817- 34	0.008	.002
14B	3817- 35	0.006	.006
15B	3817- 36	0.007	.005
16B	3817- 37	0.005	.002
17B	3817- 38	0.012	.006
18B	3817- 39	0.011	.012
✓ 19B	3817- 40	0.012	<.001
20B	3817- 41	0.006	.006
21B	3817- 42	0.005	<.001
✓ 1C	3817- 43	0.009	<.001

Robert G Leech
3-20-89

Client ID AFB03817	Lab ID	FA/AA Au oz/ton	
2C	3817- 44	0.036	.021
3C	3817- 45	0.020	.031
4C	3817- 46	0.006	.024
5C	3817- 47	0.005	.017
6C	3817- 48	0.006	.002
7C	3817- 49	0.004	.008
8C	3817- 50	0.030	.031
9C	3817- 51	0.007	.010
10C	3817- 52	0.007	.006
11C	3817- 53	0.005	.003
12C	3817- 54	0.007	<.001
13C	3817- 55	0.021	.017
14C	3817- 56	0.006	.008
15C	3817- 57	0.005	.006
16C	3817- 58	0.008	.002
17C	3817- 59	0.015	.016
18C	3817- 60	0.014	.011
19C	3817- 61	0.008	.006
20C	3817- 62	0.006	.006
21C	3817- 63	0.009	.006

Robert G Cook 3-20-89


4,695
9,324
10,739
11,988
12,487
13,653
5712
5661
68,547 TON
.0099
118.5 lbs/ft³
684-5454
629 03
(1121 03)
62%
112,000

A.F. BUDGE (MINING) LIMITED — VULTURE MINE

ASSAYS

Heat Leach

Time Start

DATE	SAMPLE		Au PPM	Au oz/t	NaCN lb/t	pH	REMARKS
2-28	3-A	1	.52 x2	.030			18:40
	3-B	2	.58	.034			"
	3-C	3	.54	.031			"
	4-A	4	.37	.021			"
	4-B	5	.39	.023			"
	4-C	6	.41	.024			"
	5-A	7	.28	.016			"
	5-B	8	.30	.017			"
	5-C	9	.30	.017			"
	1-A	1	2.0	.116	.03		
	1-B	2	.04	.002			
	1-C	3	0	<.001			
	2-A	4	.06	.003			
	2-B	5	.21	.012			
	2-C	6	.37	.021			
	6-A	7	0	<.001			
	6-B	8	.07	.004			
	6-C	9	.03	.002			
	7-A	10	.04	.002	.015	12	

PPM Au x 0.029 = oz/t

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

A.F. BUDGE (MINING) LIMITED — VULTURE MINE

ASSAYS

DATE	SAMPLE		Au PPM	Au oz/t	NaCN lb/t	pH	REMARKS
3-1	7-B	1	.24 ×2	.014			10:10
	7-C	2	.14	.008			"
	8-A	3	.23	.013			"
	8-B	4	.12	.007			"
	8-C	5	.54	.031			"
	9-A	6	.11	.006			"
	9-B	7	.14	.008			"
	9-C	8	.18	.010			"
	10-A	9	.17	.010			"
	10-B	10	.15	.009			"
	10-C	1*	.10	.006			13:00
	11-A	2*	.50	.029			
	11-B	3*		<.001			
	11-C	4*	.05	.003			
	12-A	5*	.04	.002			
	12-B	6*	.10	.006			
	12-C	7*		<.001			
	13-A	8*	.31	.018			
	13-B	9*	.04	.002			
	13-C	10*	.30	.017	.01 (20)		

PPM Au × 0.029 = oz/t

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

A.F. BUDGE (MINING) LIMITED — VULTURE MINE

ASSAYS

DATE	SAMPLE		Au PPM	Au oz/t	NaCN lb/t	pH	REMARKS
3-1-89	14-A	1	.14 ×2	.008			15:30
	14-B	2	.10	.006			
	14-C	3	.14	.008			
	15-A	4	.06	.003			
	15-B	5	.09	.005			
	15-C	6	.10	.006			
	16-A	7	.10	.006			
	16-B	8	.04	.002			
	16-C	9	.03	.002			
	17-A	10	.22	.013			
	17-B	1*	.11	.006			17:45
	17-C	2*	.28	.016			
	18A	3*	.11	.006			
	18-B	4*	.20	.012			
	18-C	5*	.19	.011			
	19-A	6*	.09	.005			
	19-B	7*		L.001			
	19-C	8*	.11	.006			
	20-A	9*	.19	.011			
	20-B	10*	.11	.006			
					20 -	.007	

PPM Au × 0.029 = oz/t

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

A.F. BUDGE (MINING) LIMITED — VULTURE MINE

ASSAYS

DATE	SAMPLE	Au PPM	Au oz/t	NaCN lb/t	pH	REMARKS
3-1-89	20-C 1	.11 x2	.006			
	21-A 2	.05	.003			
	21-B 3		<.001			
	21-C #4	.11	.006	.004 (A)		

PPM Au x 0.029 = oz/t

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

TO: A. F. Budge, R. R. Short

FROM: Dale Allen, Production Manager

SUBJECT: Progress Report

DATE: April 5, 1989

****

VULTURE MINE

Agglomerating was resumed March 16 but did not reach previous production rates due to electrical difficulties and material handling problems. The generator was not able to produce the power needed to run the plant and the agglomerator section at full capacity. Cummins was out and decided to change out a computer board, which helped but did not solve the problem entirely. Two days later (after life-threatening phone calls) they had a fuel pump shipped in via air freight express, which did finally cure the problem. We expect to agglomerate 5,000 tons/week in April.

With the onset of warmer (!) weather, we are finding it necessary to intensify our efforts to maintain solution flow to the leach pads because the heat tends to increase the amount of calcium deposited in the drippers, plugging them off.

NALCO will be at the property April 6 to run some tests using their binding agent (at their expense). If it works, it would give us better pH control which would alleviate our calcium problem, plugging off the drippers. This could also be a binder for the copper tailings. They also sell water treatment reagents that might be helpful with our immediate problem--plugging of the drippers!

Heap #1

After evaluating the assays from Iron King and those that we ran in our lab, we can conclude the following: the heap contains 54,068 tons and 427 ozs. of gold.

Section	Tonnage	Calculated Assay	Oz/Au
A	4,268	0.013	55
B	6,588	0.0047	31
C	7,923	0.0097	77
D	8,778	0.006	53
E	9,063	0.008	73
F	10,440	0.008	87
G	7,008	0.007	51
	54,068		427

Assuming a recoverable gold assay at 0.03 oz/ton, Heap #1 initially contained 1,620 oz. The first 1,068 ounces of gold sold can be attributed directly to this heap. The majority of the gold that has been sold since then is from Heap #2. However, we did have solution draining from Heap #1 for a time after we started the leach on Heap #2. Heap #1 could have contributed as much as 100 ounces of gold during this period. Approximately 30 ounces of gold remained in the preg pond that were not directly attributed to Heap #1.

Sold:	1,068 ozs.
Au as drained solution:	100 ozs.
Au remaining in preg pond:	30 ozs.
Au remaining in Heap #1:	427 ozs.
Accountable Au from Heap #1	1,625 ozs.

Therefore, we can state (with some reservations) that we recovered 74% of the gold from Heap #1.

Placer Potential

The work on the placer has progressed at a much slower pace than originally projected and unfortunately with discouraging results. We originally expected the placer to cover a much larger area than is now perceived. Therefore, the initial work was done in the outlaying areas from the original Trench 13. It looks now that if we are to have an economical placer deposit, it will be closer to the original Vulture stock. The trenches being sampled now appear to be of economic value ($1.50/yd^3). This area has been cleared of tailings and is in the vicinity of Trench 13.

Our objective now is to determine the extent or limit of this deposit as soon as possible. If this area does not meet our criteria of at least 50,000 yd^3 with a value of $2.00/yd^3, we will pull the plug. We should be able to evaluate this deposit within the next two weeks.

We also have two other targets that should be investigated while we have Jim Prudden's equipment here. The area with the most potential is east of the pit. Very fine gold appears to

be close to the surface (top three feet) and could prove to be potential ore for heap leach. We will be running leach tests on samples taken from these trenches in our laboratory next week, with preliminary results by the latter part of April. If things pan out, we could be adding this surface material to our heaps next month.

Below this three foot cap, the gold appears to be coarser and would have to be evaluated for a placer plant or as heap leach material.

The other target of interest is near the houses by the front gate. It should only take a few days to determine if it is worthwhile pursuing.

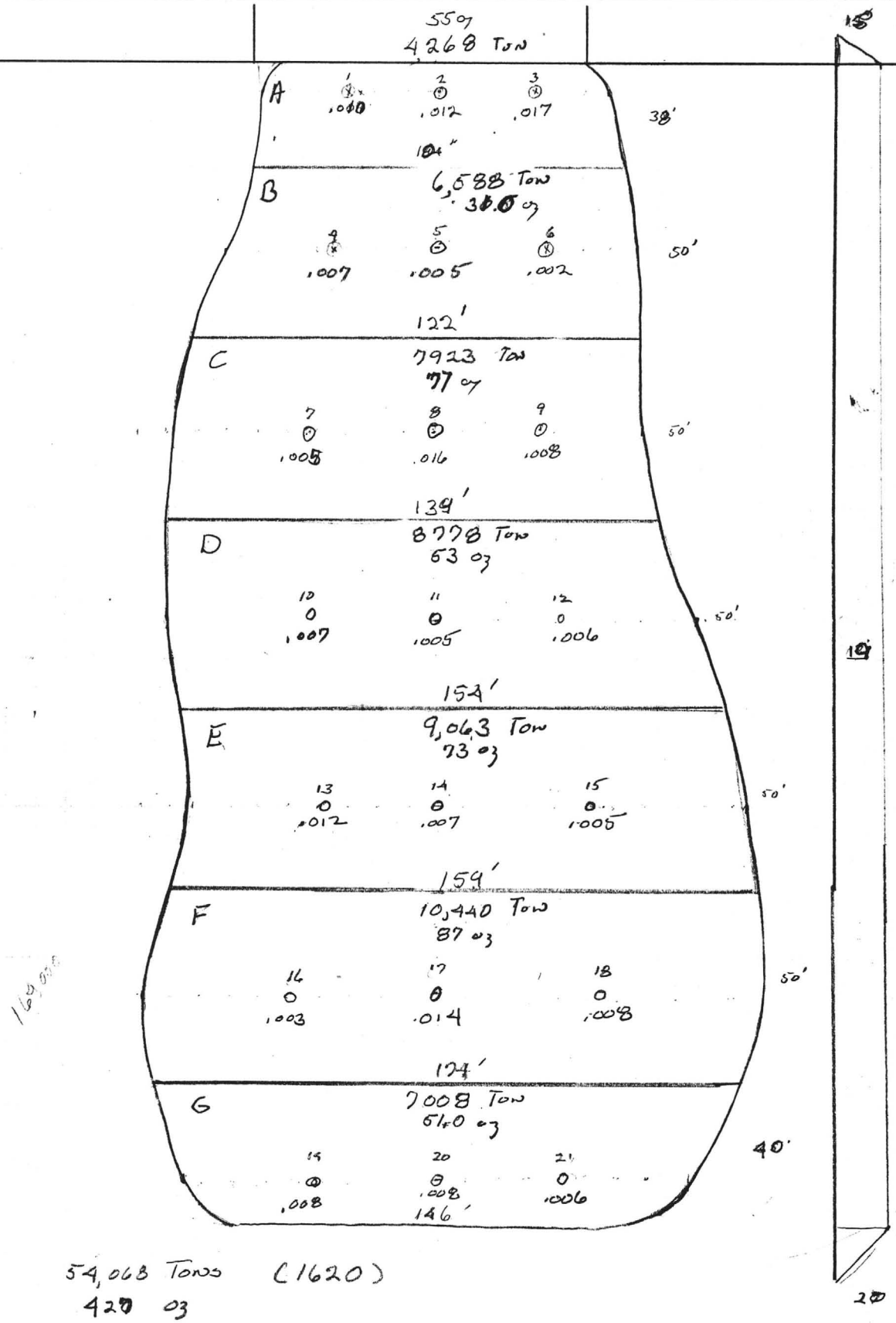
A future target would be to evaluate the possibility of a placer deposit under the present tailings being processed. We might want to look at this sometime late summer 1989.

There should not be any need for a drill rig for placer evaluation except if by chance we are running a placer operation and wish to expand our reserves.

COPPER TAILINGS

I am planning to be in Anaconda, Montana the week of April 23, 1989 to meet with ARCO representatives regarding the Opportunity Tailings.

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD



54,068 TONS (1620)
420 oz

IRON KING ASSAY INC.

23-Feb-89

LAB JOB #: AFB03743

Client name: A.F. Budge Mining Ltd.

Billing address: 4301 N. 75th St
Suite 101
Scottsdale, AZ 85251-3504

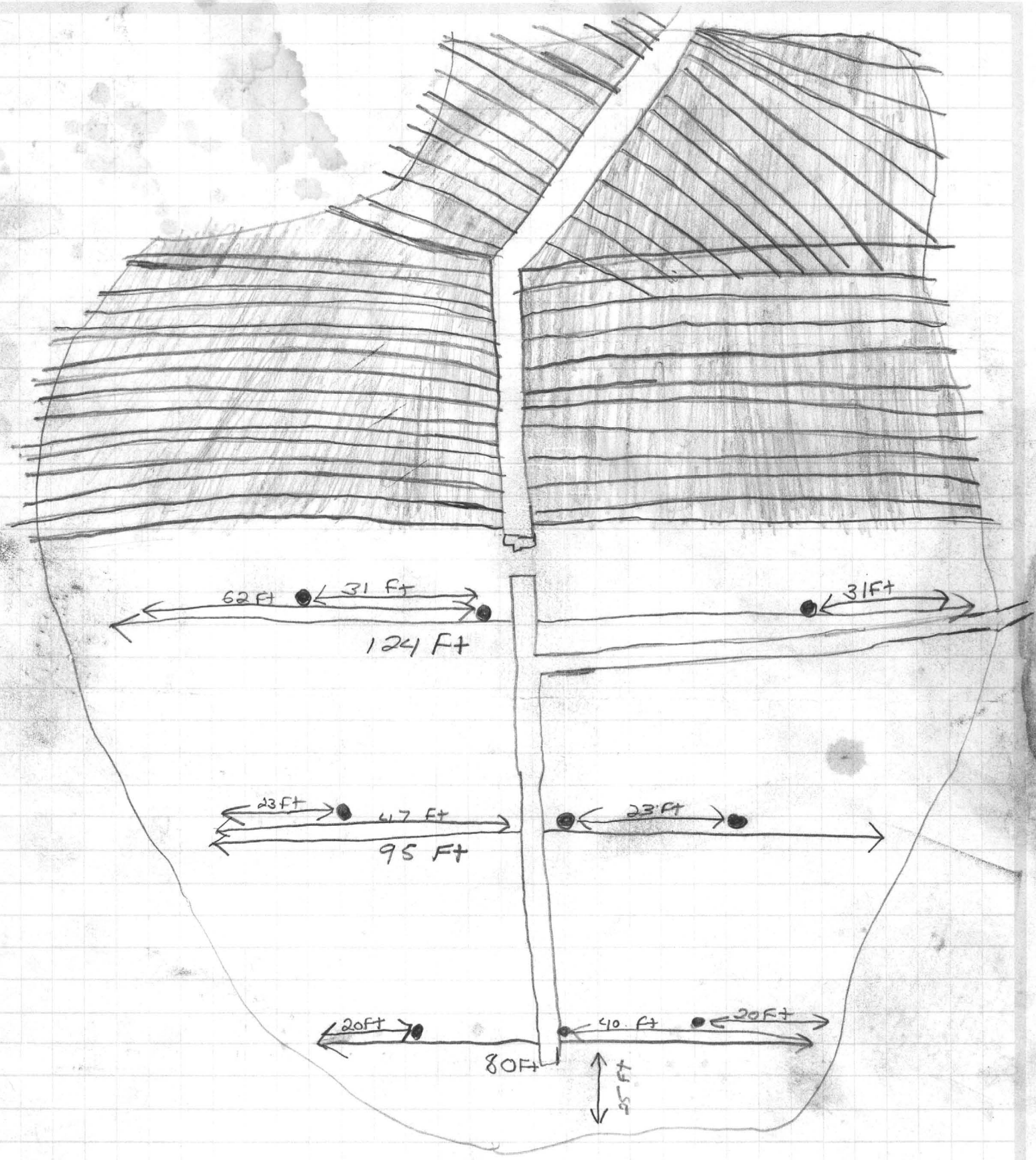
Phone number: 376-9056

No. Samples: 8
Date Received: 02-15-89
Submitted by: D. Allen

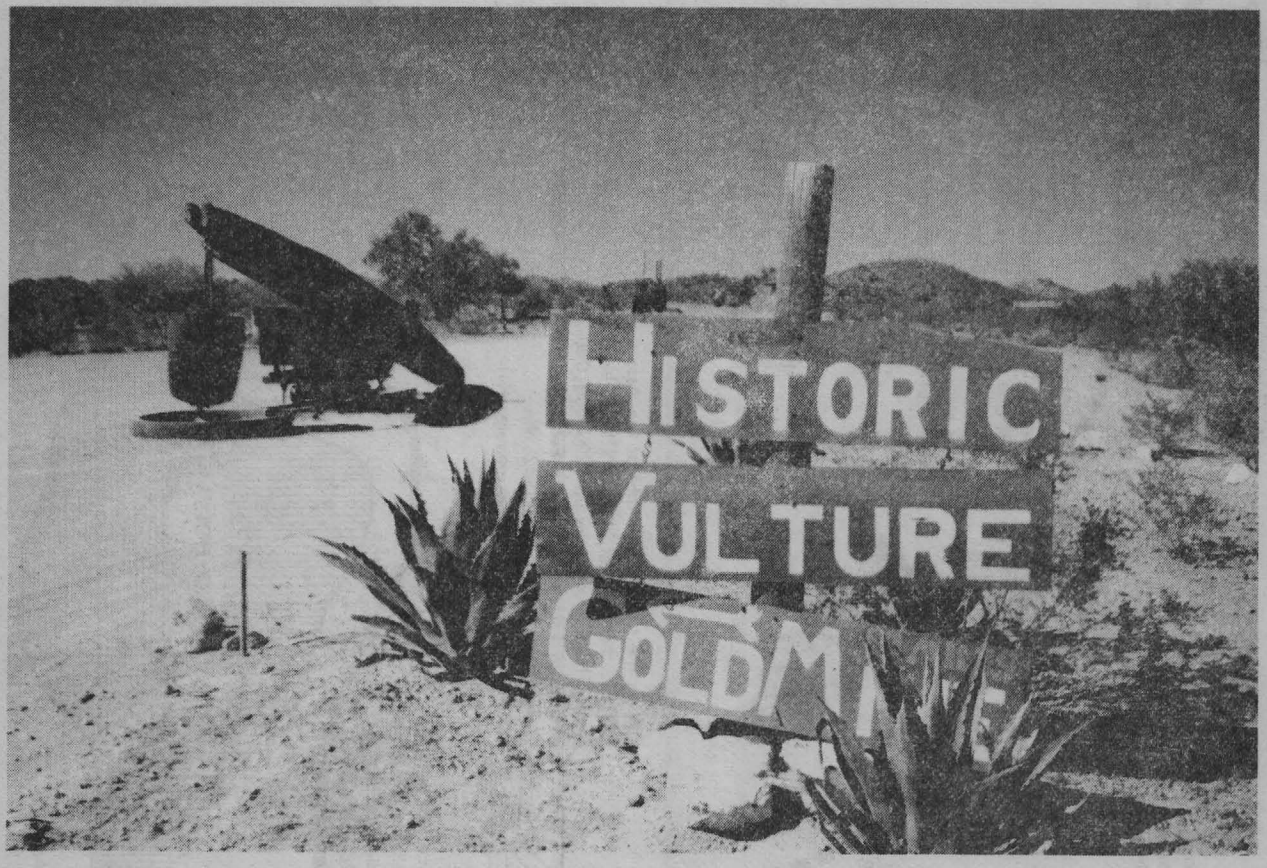
INVOICE ATTACHED

ANALYTICAL REPORT

Client ID AFB03743	Lab ID		FA/AA Au oz/ton	Fire Assay Ag oz/ton
1-9-89	3743-	1	0.036	1.13
1-18-89	3743-	2	0.051	0.35
1-19-89	3743-	3	0.030	<.10
1-31-89	3743-	4	0.155	0.59
2-1-89	3743-	5	0.063	0.22
2-3-89	3743-	6	0.069	0.22
No I.D. A	3743-	7	0.010	0.18
No I.D. B	3743-	8	0.078	5.14


62 Ft
31 Ft
124 Ft
31Ft
23Ft
47 Ft
95 Ft
23Ft
20Ft
40 Ft
20Ft
80Ft
45 Ft

Visit



Wickenburg, Arizona

Welcome to Arizona and especially to the Vulture Gold Mine. It is our sincere wish that your visit will be safe and most pleasant. In the interest of safety we remind you the Vulture Gold Mine is situated in a remote part of the Sonoran Desert and as in all desert areas the careless or unwary can, and do, get into serious trouble.

The Vulture is open for your pleasure and enjoyment, as follows:

Mid September to Mid May
9:00 a.m. to 5:00 p.m. 7 Days a week

Mid May to Mid September
9:00 a.m. to 5:00 p.m. Thursday - Sunday

Visit

Wickenburg, Arizona

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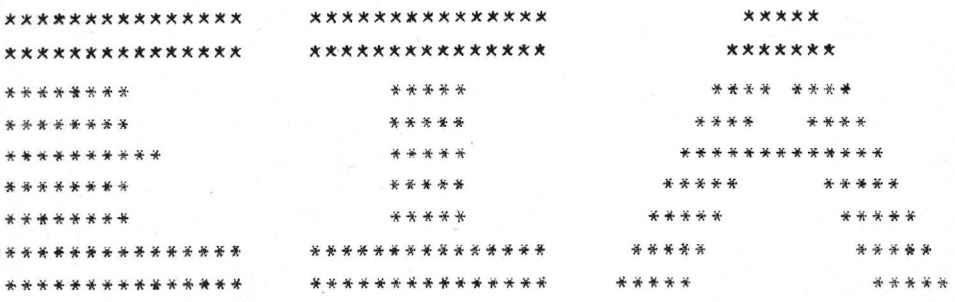
Mid September to Mid May
9:00 a.m. to 5:00 p.m. 7 Days a week

Mid May to Mid September
9:00 a.m. to 5:00 p.m. Thursday - Sunday

NOT SCANNED

EQUIPMENT INVESTMENT ANALYSIS PROGRAM



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This comparative analysis report provides an estimate of the costs associated with owning and operating the equipment compared. Because of the many variables involved in such an analysis, Caterpillar does not represent or warrant, expressly or implicitly, the accuracy of the analysis or that the indicated results will in fact be achieved. The user must obtain financial counsel to determine the actual effect of a particular purchase decision.

Special Report

PREPARED FOR: VULTURE MINE

BY: EMPIRE

CASH PAID OUT AND TAX SAVINGS	CAT 613	CAT 615	CRITICAL COMPARISONS	
Transaction Price	0	0	0	0 %
- Trade-in Allowance				
+ Interest Expense	0	0		
+ Lease Payments	59,400	94,800		
+ Insurance/Local Tax	0	0		
TOTAL CASH PAID OUT	$ 59,400	94,800	$ -35,400	-37 %
Investment Tax Credit	0	0		
+ Depreciation	0	0		
+ Interest Expense	0	0		
+ Lease Payments	0	0		
+ Insurance/Local Tax	0	0		
TOTAL TAX SAVINGS	$ 0	0	$ 0	0 %

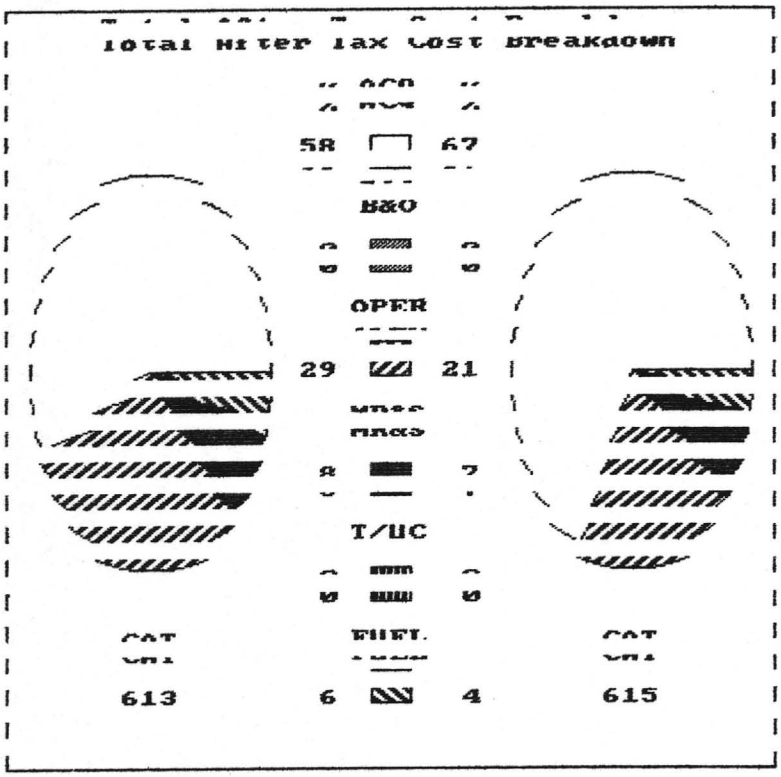
OPERATING HOURS SUMMARY	CAT 613	CAT 615	CRITICAL COMPARISONS	
Availability first year	80.00 %	80.00 %		
last year	80.00 %	80.00 %		
Average Availability	80.00 %	80.00 %	0.00	0 %
Annual Scheduled Hours	2,600	2,600		
Average Utilization	80.00 %	80.00 %		
MACHINE OPERATING HOURS PER YEAR	2,080	2,080	0	0 %
MINIMUM OPERATING HOURS REQUIRED PER YEAR	2,080	2,080		
Machine Operating Hours	2,080	2,080		
Backup Hours Required	0	0	0	0 %
TOTAL OPERATING HOURS PER YEAR	2,080	2,080		

MACHINE OPERATING COSTS		CAT 613	CAT 615	CRITICAL COMPARISONS	
Fuel Consumption/Hour		5.5	6.0		
x Price per Gallon		0.76	0.76		
FUEL COST PER HOUR	$	4.18	4.56	$ -0.38	-8 %
OILS,FILTERS,GREASE	$	1.57	1.76	$ -0.19	-11 %
Est Tire or U/C Life		5,000	5,000	0	0 %
Replacement Cost	$	5,000	5,000		
Undercarriage Only:					
I Factor					
A Factor					
Z Factor					
Basic Factor					
TIRE/UNDERCARRIAGE COST PER HOUR	$	0.00	0.00	$ 0.00	0 %

MACHINE OPERATING COSTS (continued)		CAT 613	CAT 615	CRITICAL COMPARISONS	
Basic Repair/Hr	$	3.00	4.00		
Extended Life Mult.		1.00	1.00		
REPAIR COSTS/HOUR	$	3.00	4.00	$ -1.00	-25 %
SPECIAL ITEMS COST PER HOUR	$	1.00	1.00	$ 0.00	0 %
SUMMARY OF MACHINE OPERATING COSTS PER HOUR:					
Fuel Cost		4.18	4.56		
Oil,Filters & Grease		1.57	1.76		
Tire or U/C Cost		0.00	0.00		
Repair Cost		3.00	4.00		
Special Items		1.00	1.00		
Total	$	9.75	11.32	$ -1.57	-14 %

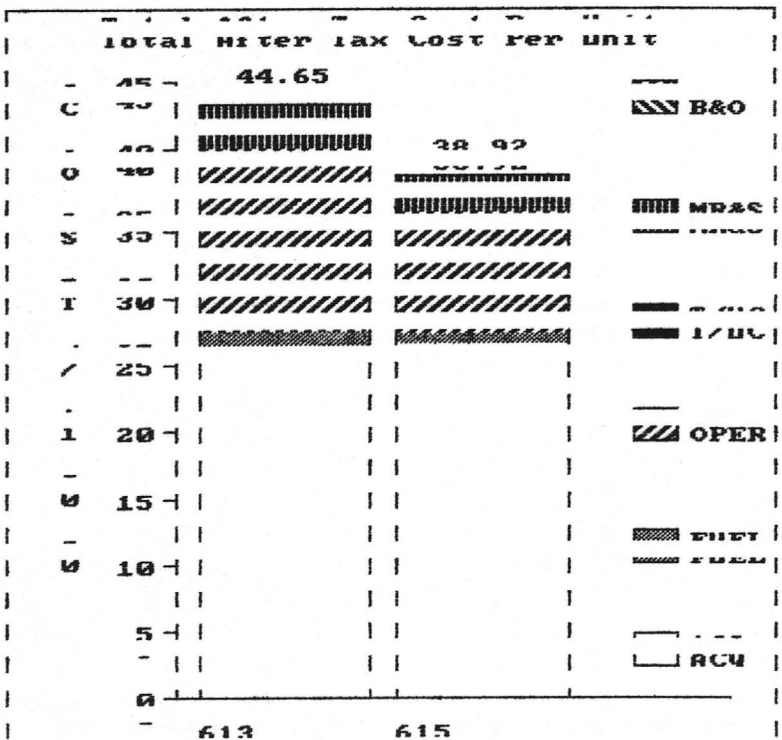
OPERATING EXPENSE SUMMARY		CAT 613	CAT 615	CRITICAL COMPARISONS	
Machine Operating Hours per Year		2,080	2,080		
x Machine Cost/Hour		9.75	11.32	$ -1.57	-14 %
MACHINE OPERATING COST PER YEAR	$	20,280	23,546	$ -3,266	-14 %
+ BackUp Cost/Year		0	0	0	0 %
MACHINE OPERATING & BACKUP COST/YEAR	$	20,280	23,546	$ -3,266	-14 %
x Years of Use		1	1		
TOTAL COST MACHINE OPERATING & BACKUP	$	20,280	23,546	$ -3,266	-14 %
+ Operator Wages		45,630	45,630		
+ Overhead Costs		0	0		
TOTAL OPER. COST	$	65,910	69,176	$ -3,266	-5 %

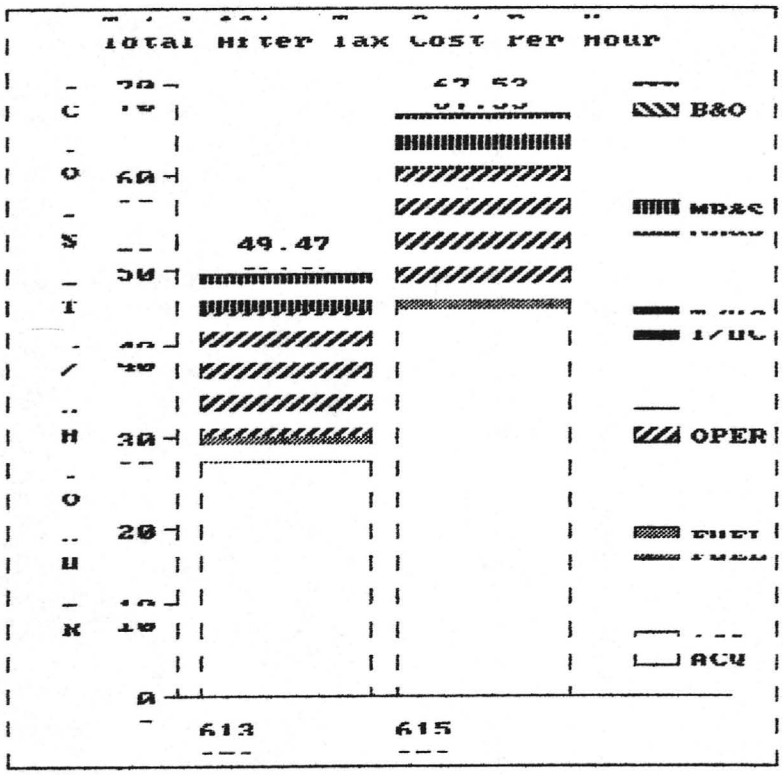
COST PER OPERATING HOUR		CAT 613	CAT 615	CRITICAL COMPARISONS	
Total Oper. Cost (divided by)	$	65,910	69,176	$ -3,266	-5 %
Total Machine Operating Hours (equals)		2,080	2,080	0	0 %
Before Tax Operating Cost per Hour	$	31.69	33.26	$ -1.57	-5 %
After Tax Operating Cost per Hour (plus)	$	20.91	21.95	$ -1.04	-5 %
After Tax Acquisition Cost per Hour (equals)	$	28.56	45.58	$ -17.02	-37 %
TOTAL AFTER TAX COST PER OPER. HOUR	$	49.47	67.53	$ -18.06	-27 %



TOTAL PRODUCTION POTENTIAL	CAT 613	CAT 615	CRITICAL COMPARISONS	
Machine Operating Hours	2,080	2,080	0	0 %
x Est. TONS/Hour	110.80	173.50	-62.70	-36 %
Annual TONS	230,464	360,880	-130,416	-36 %
BackUp Operating Hours	0	0		
x BackUp TONS/Hour	110.80	173.50		
Annual BackUp TONS	0	0	0	0 %
Total TONS/Year	230,464	360,880	-130,416	-36 %
x Years Useful Life	1	1		
TOTAL PRODUCTION POTENTIAL	230,464	360,880	-130,416	-36 %

COST OF PRODUCTION		CAT 613	CAT 615		CRITICAL COMPARISONS	
Total Operating Expenses	$	65,910	69,176	$	-3,266	-5 %
- Tax Savings		22,409	23,520			
After Tax Operating Cost		43,501	45,656			
+ Acquisition Cost		59,400	94,800		-35,400	-37 %
Total After Tax	$	102,901	140,456	$	-37,555	-27 %
Total Production Potential TONS		230,464	360,880		-130,416	-36 %
After Tax / TONS Operating Cost		0.1888	0.1265		0.0622	49 %
+ Acquisition Cost		0.2577	0.2627		-0.0050	-2 %
COST OF PRODUCTION	$	0.4465	0.3892	$	0.0573	15 %




Total Hiter Tax Cost Per Hour
49.47
B&O
OPER
613
615

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BC-LAMPERT

Due to the many variables involved in earthmoving projects and the consequent possibility of inadvertent errors or omissions in preparing reports of this character, neither Caterpillar Tractor Co. nor the dealer can or does represent or warrant, expressly or implicitly, either the accuracy of this report or that the Caterpillar or competitive equipment referred to in the report will in fact achieve the performance indicated on the job to which this report relates.

Simulate Summary

No.	Hauler	Course	Loader	Payload, LB.	Cycle Time,Mn	Prod./ 60Min.Hr	Oper.Hr Req'd	Cost/ TON	Speed MPH
1	613B	ORE#1		26,000	7.04	110.8	11	0.000	12.6
2	615	ORE#1		38,400	6.64	173.5	7	0.000	13.3
3	D250B	ORE#1	966	50,000	8.54	175.5	7	0.000	10.4

CATERPILLAR INC.
VEHICLE SIMULATION ANALYSIS

Mach. Code	Model Ident.	Empty Weight	Payload LB.	Tire Size	Tire Type	Corrections Speed	Corrections Alt.	O&O Cost $/Hr
C101	613B	31,210	26,000	18.00-25	E2	1.00	1.00	

Engine	FWHP	Transmission
3208	150	4SPD-PS

Course ORE#1
Desc. ORE HAUL 1 TO HOPPER

Density 0 LB. /BCY
Quantity 1,200

LOAD TIME =	0.90	LOADER =	
HAUL TIME =	3.62	PAYLOAD =	13.0 TON
DUMP TIME =	0.70		
MANV. TIME =	0.00	PROD./60 MIN.HR. =	110.8 TON
RETURN TIME =	1.82		
CYCLE TIME =	7.04	OPER. MIN/HOUR =	60 MIN
TRIPS/HOUR =	8.53	PROD./60 MIN.HR. =	110.8 TON
CYCLE DIST. =	7,800		
AVG.SPEED =	12.6	OPER. HR. REQ'D. =	11
AVG.SPEED 60 MIN =	12.6	COST PER TON =	0.000

RUN NO. MODEL
1 613B

HAUL ROAD
INITIAL VEHICLE SPEED 3 MPH

SEG NO.	DIST FEET	ROLL RES	GRADE %	VEL LIMIT MPH	MAX SS VEL MPH	TOP VEL MPH	LAST VEL MPH	ACCUM TIME MIN
1	3,900	4.00	2.00	0.00	12.52	12.52	3.00	3.62

RUN NO. MODEL
1 613B

RETURN ROAD
INITIAL VEHICLE SPEED 0 MPH

SEG NO.	DIST FEET	ROLL RES	GRADE %	VEL LIMIT MPH	MAX SS VEL MPH	TOP VEL MPH	LAST VEL MPH	ACCUM TIME MIN
1	3,900	4.00	-2.00	0.00	26.73	26.73	0.00	1.82

CATERPILLAR INC.
VEHICLE SIMULATION ANALYSIS

Mach. Code	Model	Ident.	Empty Weight	Payload LB.	Tire Size	Tire Type	Corrections Speed	Corrections Alt.	O&O Cost $/Hr
C102	615		51,590	38,400	26.50-25	RA	1.00	1.00	

Engine	FWHP	Transmission
3306	250	6SPD-PS

Course ORE#1
Desc. ORE HAUL 1 TO HOPPER

Density 0 LB. /BCY
Quantity 1,200

LOAD TIME =	0.90	LOADER =	
HAUL TIME =	3.28	PAYLOAD =	19.2 TON
DUMP TIME =	0.70		
MANV. TIME =	0.00	PROD./60 MIN.HR. =	173.5 TON
RETURN TIME =	1.76		
CYCLE TIME =	6.64	OPER. MIN/HOUR =	60 MIN
TRIPS/HOUR =	9.03	PROD./60 MIN.HR. =	173.5 TON
CYCLE DIST. =	7,800		
AVG.SPEED =	13.3	OPER. HR. REQ'D. =	7
AVG.SPEED 60 MIN =	13.3	COST PER TON =	0.000

RUN NO. 2 MODEL 615 — HAUL ROAD
INITIAL VEHICLE SPEED 3 MPH

SEG NO.	DIST FEET	ROLL RES	GRADE %	VEL LIMIT MPH	MAX SS VEL MPH	TOP VEL MPH	LAST VEL MPH	ACCUM TIME MIN
1	3,900	4.00	2.00	0.00	14.33	14.33	3.00	3.28

RUN NO. 2 MODEL 615 — RETURN ROAD
INITIAL VEHICLE SPEED 0 MPH

SEG NO.	DIST FEET	ROLL RES	GRADE %	VEL LIMIT MPH	MAX SS VEL MPH	TOP VEL MPH	LAST VEL MPH	ACCUM TIME MIN
1	3,900	4.00	-2.00	0.00	27.94	27.94	0.00	1.76

Mach. Code	Model Ident.	Empty Weight	Payload LB.	Tire Size	Tire Type	Tire Speed	Corrections Alt.	O&O Cost $/Hr
C214	D250B	38,400	50,000	23.50-25		1.00	1.00	

Engine	FWHP	Transmission
3306	218	5SPD-PS/LU

Course ORE#1
Desc. ORE HAUL 1 TO HOPPER

Density 0 LB. /BCY
Quantity 1,200

LOAD TIME =	1.75
HAUL TIME =	4.02
DUMP TIME =	1.20
MANV. TIME =	0.00
RETURN TIME =	1.57
CYCLE TIME =	8.54
TRIPS/HOUR =	7.02
CYCLE DIST. =	7,800
AVG.SPEED =	10.4
AVG.SPEED 60 MIN =	10.4

LOADER =	966
PAYLOAD =	25.0 TON
PROD./60 MIN.HR. =	175.5 TON
OPER. MIN/HOUR =	60 MIN
PROD./60 MIN.HR. =	175.5 TON
OPER. HR. REQ'D. =	7
COST PER TON =	0.000

RUN NO. 3 MODEL D250B — HAUL ROAD
INITIAL VEHICLE SPEED 3 MPH

SEG NO.	DIST FEET	ROLL RES	GRADE %	VEL LIMIT MPH	MAX SS VEL MPH	TOP VEL MPH	LAST VEL MPH	ACCUM TIME MIN
1	3,900	4.00	2.00	0.00	11.25	11.25	3.00	4.02

RUN NO. 3 MODEL D250B — RETURN ROAD
INITIAL VEHICLE SPEED 0 MPH

SEG NO.	DIST FEET	ROLL RES	GRADE %	VEL LIMIT MPH	MAX SS VEL MPH	TOP VEL MPH	LAST VEL MPH	ACCUM TIME MIN
1	3,900	4.00	-2.00	0.00	32.64	32.64	0.00	1.57

EQUIPMENT INVESTMENT ANALYSIS PROGRAM

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This comparative analysis report provides an estimate of the costs associated with owning and operating the equipment compared. Because of the many variables involved in such an analysis, Caterpillar does not represent or warrant, expressly or implicitly, the accuracy of the analysis or that the indicated results will in fact be achieved. The user must obtain financial counsel to determine the actual effect of a particular purchase decision.

Special Report

PREPARED FOR: VULTURE

BY: EMPIRE

TOTAL PRODUCTION POTENTIAL	CAT 980	CAT 966	CRITICAL COMPARISONS	
Machine Operating Hours	2,080	2,080	0	0 %
x Est. TONS/Hour	214.80	164.30	50.50	31 %
Annual TONS	446,784	341,744	105,040	31 %
BackUp Operating Hours	0	0		
x BackUp TONS/Hour	214.80	164.30		
Annual BackUp TONS	0	0	0	0 %
Total TONS/Year	446,784	341,744	105,040	31 %
x Years Useful Life	1	1		
TOTAL PRODUCTION POTENTIAL	446,784	341,744	105,040	31 %

COST OF PRODUCTION	CAT 980	CAT 966	CRITICAL COMPARISONS	
Total Operating Expenses	$ 70,195	64,662	$ 5,533	9 %
- Tax Savings	23,866	21,985		
After Tax Operating Cost	46,329	42,677		
+ Acquisition Cost	117,600	87,000	30,600	35 %
Total After Tax	$ 163,929	129,677	$ 34,252	26 %
Total Production Potential TONS	446,784	341,744	105,040	31 %
After Tax / TONS Operating Cost	0.1037	0.1249	-0.0212	-17 %
+ Acquisition Cost	0.2632	0.2546	0.0086	3 %
COST OF PRODUCTION	$ 0.3669	0.3795	$ -0.0125	-3 %

COST PER OPERATING HOUR		CAT 980	CAT 966		CRITICAL COMPARISONS	
Total Oper. Cost	$	70,195	64,662	$	5,533	9 %
(divided by)						
Total Machine Operating Hours		2,080	2,080		0	0 %
(equals)						
Before Tax Operating Cost per Hour	$	33.75	31.09	$	2.66	9 %
After Tax Operating Cost per Hour	$	22.27	20.52	$	1.76	9 %
(plus)						
After Tax Acquisition Cost per Hour	$	56.54	41.83	$	14.71	35 %
(equals)						
TOTAL AFTER TAX COST PER OPER. HOUR	$	78.81	62.34	$	16.47	26 %

DAWSON
METALLURGICAL
LABORATORIES, INC.

P. O. Box 7685
5217 Major Street
Murray, Utah 84107
Phone: 801-262-0922

July 13, 1984

Mr. Ben F. Dickerson III
A.F. Budge Mining Ltd.
DMEA Ltd
4203 North Brown Avenue, Suite F
Scottsdale, Arizona 85251

Subject: Heap Leach Test Results for Vulture Project Ore and Tailing Composite. Our Project No. P-1042 Composite C and D.

Gentlemen:

The heap leach test that Frank Millsaps authorized be made on a composite sample of ore and tailings that we received on June 1, 1984 has been completed. A composite sample was made by mixing 80 percent ore with 20 percent tailing. This sample was agglomerated with the following:

Ore	10,000 gram	
Cement	75 gram	(15 lbs/ton)
Quicklime	25 gram	(25 lbs/ton)
NaCN	15 gram	(3 lbs/ton)
H_2O	1100 gram	

The resulting pellets were loaded into a 4 inch diameter column, allowed to cure for 1 day, and leached with a 0.5 pound NaCN per ton solution. The overall results of this test were as follows:

Leach Residue	Head (calc)	Extraction %	NaCN Consumed, lbs/Ton
0.018	0.079	77.2	1.6

The actual leach time was from June 5 to June 25, 1984 or 20 days. Summary sheets for the gold extraction and the cyanide solutions, and the assayers reports are attached.

The agglomerated pellets maintained their integrity throughout leaching and subsequent drying and sampling.

If you have any questions, please contact me.

Very truly yours,
DAWSON METALLURGICAL LABORATORIES, INC.

W Richard McDonald

W. Richard McDonald,
Consulting Metallurgist

cc: Mr. Frank Millsaps

A.F. Bugde Mining Ltd
Summary of Gold Extraction
Heap Leach
Agglomerated with 15 lbs Cement,
5 lbs CaO, 3 lbs NaCN per ton
Leach Solution 1/2 lb NaCN per ton
Flow Rate 0.002 gpm/ft^2

P1042 - Test 1 - 10.011 Kgs (343.2 assay tons)

Date	Sample	Liters	Oz/Ton	ppm	mgs	Cum. mgs	Cum. Oz/Ton		Cum. Dist. V1C
			Au	Au	Au	Au	Au		Au
6/5/84	Start								
6/7/84	P1	2.145	0.127	4.35	9.34	9.34	0.027		34.5
6/8/84	P2	1.533	0.055	1.89	2.89	12.23	0.036		45.2
6/10/84	P3	2.633	0.030	1.03	2.71	14.94	0.044		55.2
6/11/84	P4	1.184	0.022	0.75	0.89	15.83	0.046		58.5
6/12/84	P5	1.093	0.016	0.55	0.60	16.43	0.048		60.8
6/14/84	P6	2.372	0.012	0.41	0.98	17.41	0.051		64.4
6/16/84	P7	2.054	0.010	0.34	0.70	18.11	0.053		67.0
6/18/84	P8	2.125	0.010	0.34	0.73	18.84	0.055		69.7
6/20/84	P9	2.694	0.007	0.24	0.65	19.49	0.057		72.1
6/22/84	P10	1.956	0.006	0.21	0.40	19.89	0.058		73.5
6/24/84	P11	2.418	0.006	0.21	0.50	20.39	0.059		75.4
6/27/84	P12	2.806	0.005	0.17	0.48	20.87	0.061		77.2
	Residue - Fire Assay -						0.018	0.00	22.8
	Calculated Head -						0.079		100.0

Project P-1042
A.F. Budge Mining Limited
Composite C & D Test 1
Cyanide Solution Summary
Ore Weight 10.011 Kg

Date	Sample	Feed Solution NaCN lbs/Ton	Feed Solution NaCN Grams	Pregnant Solution Liters	Pregnant Solution NaCN lbs/ton	Pregnant Solution NaCN Grams	pH
6/4/84	Pelletize		15				
6/5/84	Start						
6/7/84	P-1	0.5	0.5	2.145	7.4	7.9	12.1
6/8/84	P-2	0.5	0.4	1.533	2.0	1.5	12.1
6/10/84	P-3	0.5	0.7	2.633	1.0	1.3	12.0
6/11/84	P-4	0.5	0.3	1.184	0.5	0.3	11.9
6/12/84	P-5	0.5	0.3	1.093	0.5	0.3	11.8
6/14/84	P-6	0.5	0.6	2.372	0.4	0.4	11.7
6/16/84	P-7	0.5	0.5	2.054	0.2	0.2	11.3
6/18/84	P-8	0.5	0.5	2.125	0.2	0.2	11.1
6/20/84	P-9	0.5	0.7	2.694	0.2	0.3	11.3
6/22/84	P-10	0.5	0.5	1.956	0.2	0.2	11.1
6/24/84	P-11	0.5	0.6	2.118	0.2	0.2	11.1
6/27/84	P-12)	0.5	0.5	1.823)	0.2	0.3	10.3
	)	0.0	0	0.983)			
		21.1				13.1	

$$\text{Flow Rate (6/7/84 to 6/22/84)} = \frac{17644 \text{ ml}}{(17 \text{ day})\ \left(\frac{1440 \text{ min}}{\text{day}}\right)} = 0.8 \text{ ml/minute}$$

$$= 0.003 \text{ gpm/ft}^2$$

$$\text{NaCN Consumed} = \frac{(21.1 - 13.1)}{(10{,}011\text{g})}\ (2000) = 1.6 \text{ lbs/ton Ore}$$

DAWSON
METALLURGICAL
LABORATORIES, INC.

P.O. Box 7685
5217 Major Street
Murray, Utah 84107-0685
Phone: 801-262-0922

August 19, 1987

UBTL
520 Wakara Way
Salt Lake City, Utah 84108

DMEA LTD.
AUG 2 2 1987
RECEIVED

Attn: Mr. Rand Potter
Technical Manager

Gentlemen:

Pursuant to instructions from Mr. Joe Fernandez of A.F. Budge Mining, we are submitting two samples of cyanide leach residue for analysis. These samples are identified as follows:

(DML) P-1300 Vulture Mine Leach Residue: 1 of 2
(DML) P-1300 Vulture Mine Leach Residue: 2 of 2
(DML) P-1387 Vulture Tailings Leach Residue: 1 of 2
(DML) P-1387 Vulture Tailings Leach Residue: 2 of 2

Splits 1 and 2 of each sample may be combined if necessary.

It is our understanding that these samples are to be analyzed for cyanide, arsenic, barium, cadmium, chromium, lead, selenium, silver, and mercury. However, if you have any questions, please contact Mr. Joe Fernandez of A.F. Budge Mining. Please submit the results and invoice to:

Mr. Joe Fernandez
A.F. Budge Mining
7340 E. Shoeman Lane
Suite 111 "B" (E)
Scottsdale, Arizona 85251-3335
(602)-945-4630

Sincerely,
DAWSON METALLURGICAL LABORATORIES, INC.

Philip Thompson

Philip Thompson,
Vice President

cc: Mr. Joe Fernandez

PT-cac

Office of State Mine Inspector

QUARTERLY REPORT 1990

COMPANY NAME: A.F. Budge (Mining) Limited

MINE/PLANT NAME: Vulture Mine

COMPANY OFFICIAL: Dale H. Allen TITLE: Production Manager

MAILING ADDRESS: 4301 North 75th Street, Suite 105
Scottsdale, Arizona 85251-3504

PHONE NUMBER: (602) 945-4630 QUARTER: 1 (2) 3 4

NUMBER OF REPORTABLE INJURIES DURING THE QUARTER FOR EACH OPERATING SUB-GROUP

none

TOTAL REPORTABLE INJURIES FOR QUARTER none

AVERAGE NUMBER OF EMPLOYEES WORKING 6

TOTAL EMPLOYEE-HOURS WORKED 3,303

PERSON COMPLETING FORM (NAME)	TITLE	DATE
Carole A. O'Brien	Mining & Financial Coordinator	8-30-90

Office of State Mine Inspector

QUARTERLY REPORT 1990

COMPANY NAME: A.F. Budge (Mining) Limited

MINE/PLANT NAME: Vulture Mine

COMPANY OFFICIAL: Dale H. Allen TITLE: Production Manager

MAILING ADDRESS: 4301 North 75th Street, Suite 105
Scottsdale, AZ 85251-3504

PHONE NUMBER: (602) 945-4630 QUARTER: (1) 2 3 4

NUMBER OF REPORTABLE INJURIES DURING THE QUARTER FOR EACH OPERATING SUB-GROUP

none

TOTAL REPORTABLE INJURIES FOR QUARTER none

AVERAGE NUMBER OF EMPLOYEES WORKING 6

TOTAL EMPLOYEE-HOURS WORKED 3,484

PERSON COMPLETING FORM (NAME)	TITLE	DATE
Carole A. O'Brien	Mining & Financial Coordinator	8-30-90

FAX 602-949-1737

JAMES M. PRUDDEN
CONSULTING GEOLOGIST

4809 Quail Point Road
Salt Lake City, Utah 84124
801-272-4720

Dale H. Allen
Production Manager
A.F. Budge Ltd.
4301 N. 75 th. St.
Scottsdale, AZ 85251

20 February 1989

Dear Dale:

I believe the last three days were very constructive for the Vulture Mine placer project. The mine has changed greatly in four years and it was very beneficial for me to spend three days on the property spot sampling and reviewing the back hoe trenching. The following comments highlight my conclusions during this visit and strive to provide direction for the field crew.

1. The large variations in bed rock topography has illustrated that the back hoe will require dozer slots cut in specific areas to ensure complete placer profile sampling. Spot sampling has indicated that significant gold concentrations can occur in alluvial sediments encountered in trenches that did not quite reach bedrock. Hence the critical requirement to sample the complete gelogical profile.

2. Delineating minable reserves within the area stripped of tailings (including 1984 Trench 3) will require completion of the 100' X 50' grid that is already in progress. Current trenching is already producing the bed rock profile and sample density in sufficient detail for mine planning. This grid system should continue to the Vulture mine road.

3. Sampling has indicated that there is a distinct possibility that the placer will continue northward from the present trench system. This would carry the open pit mining into the area occupied by the historic Vulture Mine buildings.

TELECOPY TRANSMIT COVER SHEET

CUSTOM EQUIPMENT CORPORATION
350 West 300 South
Salt Lake City, Utah 84101

Telephone: (801) 533-8557
Telex: 381-014
Fax: (801) 363-4843

TO: Budge Mining Co DATE: 21 Mar. 1989

ATTN: Dale Allen PROJECT: MC Syst.

FAX PHONE NUMBER: 1-602-949-1737

FROM: Bob Coucher

NUMBER OF PAGES
(including coversheet): 3

Dear Dale:

Here is the repair report on the little vacuum pump. It would appear that over greasing was the problem, and it is probably worth telling the fellows at the plant to be sure not to grease pump except as specified in the pump manual.

I hope all is going well at the plant and that you are making lots of gold.

Regards,

Bob Coucher

Bob
~~Bobb~~
Return to Bud

LACO INDUSTRIAL INC.

March 20, 1989
Ref: Pump Serial
#3161243

Custom Equipment
350 West 300 South
Salt Lake City, Utah 84101

Attention: Steve Adamson

Dear Steve,

We disassembled the above referenced pump returned to us and the following was observed:

1. The pump intermediate section and discharge covers were packed almost solid with grease. The air passages on both ends were almost completely blocked off (see photos). Recommended grease frequency is every 3000 hours. This pump looks as though it had been greased daily.

2. There was some evidence of cavitation on the intermediate plates. This could have been caused by restricted air flow as listed in #1 by running the pump against a closed suction line or by insufficient service liquid. There was not enough damaged due to cavitation to affect the operation of the pump.

3. The coil ont he solenoid valve in the service liquid piping was missing. No water could pass through the line in this condition.

4. There was a white film on the internal pump arts (see photo) This film was not thick enough to cause problems yet, but considering the time the pump had been in operation this could be a problem in the future.

The pump has been cleaned and assembled on the baseplate.

There is no doubt the excess grease blocking the air flow casused the pump to perform below specifications.

Attached is the invoice for labor to diassemble, clean, and repair pump.

Sincerely yours,

Leon Chamberlain

LC/dc
Enclosure

137 West 1700 South
Salt Lake City, Utah 84115
(801) 486-1004

MOUNTAIN STATES R & D INTERNATIONAL, INC.

13801 E. Benson Highway
P. O. Box 310
Vail, AZ 85641

Tucson: 602 624-7990 Telex: 9102502482 MSRD
Vail: 602 762-5364 Fax: 602 762-5717

TELEFAX COVER PAGE

To: Dale Allen-A. F. Budge Mining, Ltd.

Fax No: 1-602-949-1737

From: Marvin Schloatman-MSRDI

RE: Fire Assay on Au & Ag

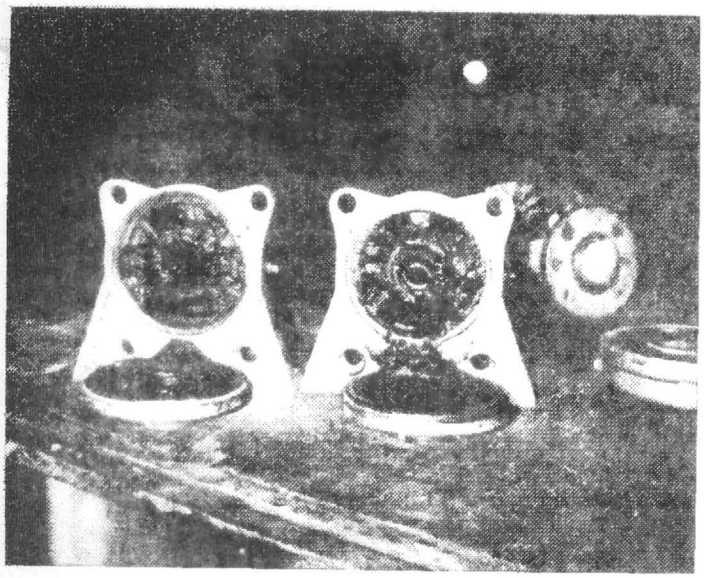
MESSAGE

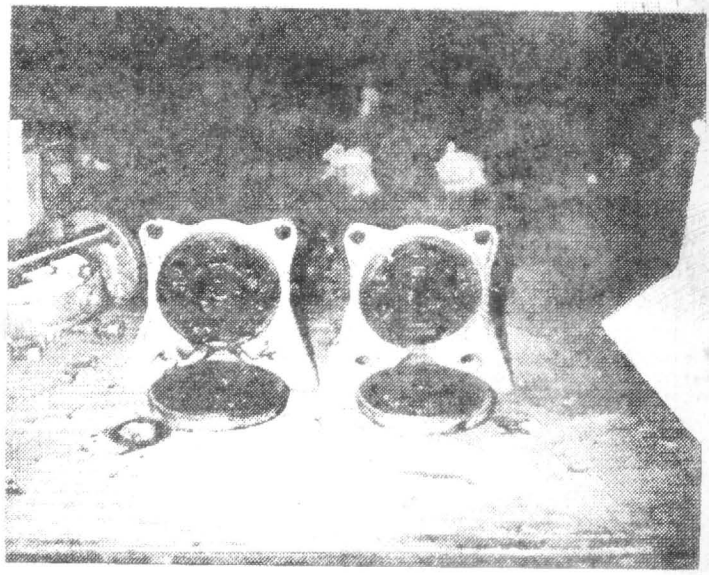
Pages 89-125-C and 89-126-C

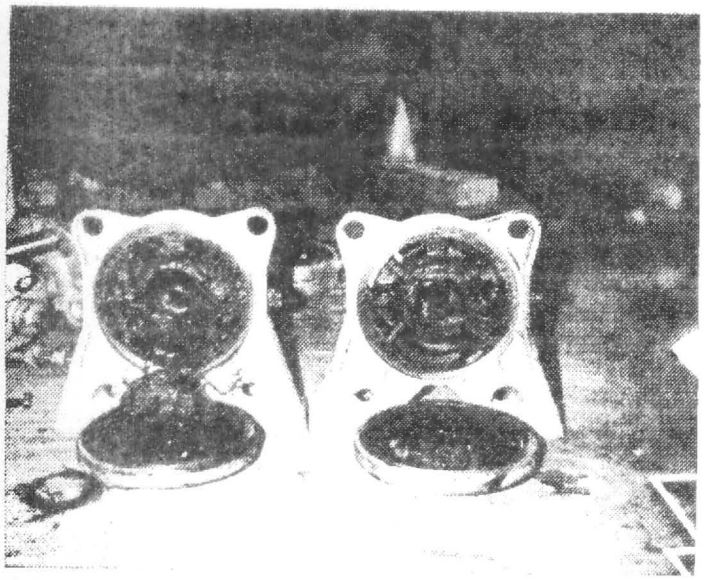
Transmitting 3 pages (including this transmittal page). If there is a problem with transmission, please call.

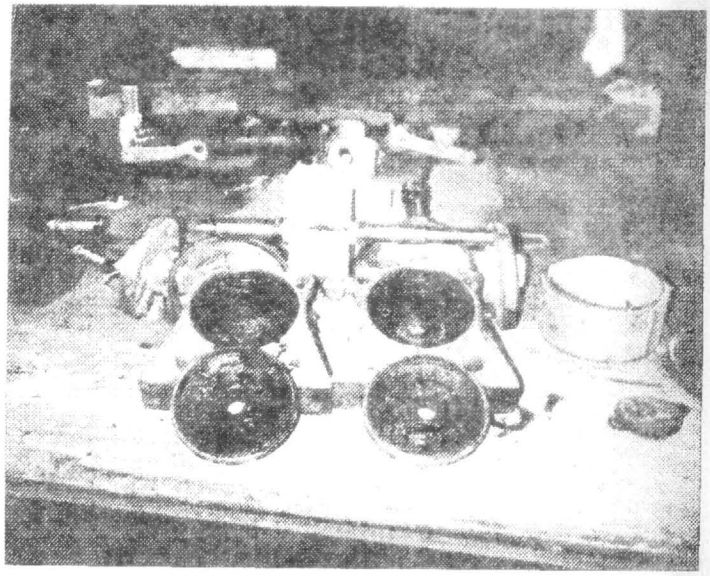
Date: 3-21-89 Time: 2:25

No.: Project 1122







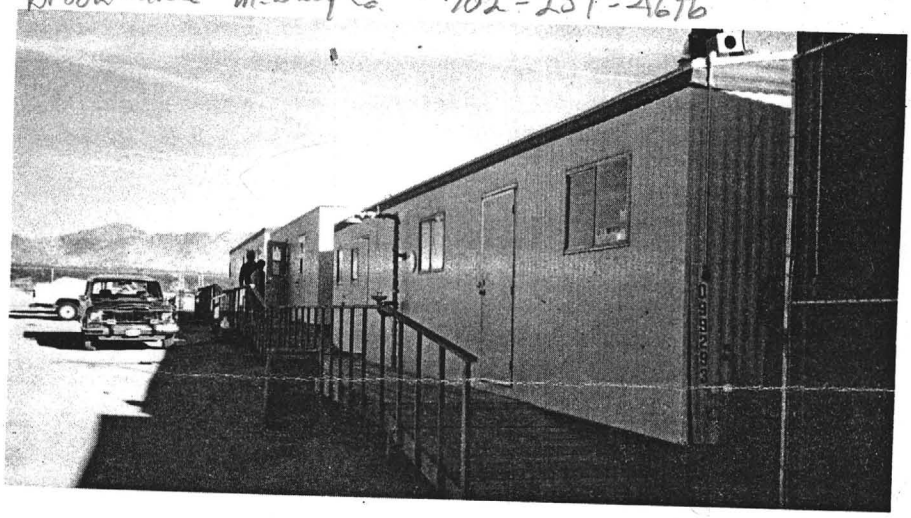


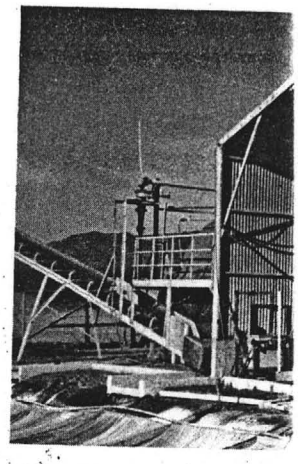
PORTABLE ASSAY LAB TRAILER
LAB EQUIPMENT

PO
SH

NOTE: The following lab trailer and lab equipment are set up as a complete working assay laboratory. However, Items A through T will be offered individually, and then together, selling whichever way totals the most.

Jim Jowes General Prop. Mgr
Brook Line Mining Co. 702-251-4696





A) 1980 CUSTOM CRAFT 10'x48' Lab Trailer, SN 20260P, with all switch gear for power source, Kewaunee 6' enclosed fume hood, other vented hoods with blowers, explosion proof blower, lab cabinets with slate tops, air conditioning, bathroom. Good condition.

B) INSTRUMENTATION LABORATORY aa/ae Spectrophotometer, SN 6899-1, (an atomic absorption machine), with gold, silver and platinum cathode lamps, compressor and vacuum pump, constant voltage transformer. Burns sample with acetylene flame and analyzes color spectrum.

C) METTLER HL-52 Digital Electronic Scale, with constant voltage transformer.

D) (2) Triple Beam Balances, for weighing samples.

E) Check Weights: Certified Class '5', 1 Mg, 5 Mg, 30 Mg, 100 Mg.

F) BRAUN B-3269 'Chipmunk' Jaw Crusher, with electric motor and starter. Used for sample preparation.

G) BICO Type UA Pulverizer, with electric motor and starter, spare plates. Used for sample preparation.

H) 3-Roll Drive Unit, with 20 lb. batch ball and 20 lb. batch rod mills. Used for turning samples.

I) SHELDON Drying Oven, with 2 shelves.

J) Sample Splitter (Riffle).

K) GILSON Lab Screen Shaker, 6-screen.

L) SEPOR Pulp Density Scale.

M) Electric Assay Furnace, 16"x24"x11", 220-volt, with automatic timer controls.

N) (2) Pouring Molds, for fire assaying.

O) SARGENT-WELCH PAX PH-ISE Meter, bench type PH meter, with various electrodes.

P) (2) BECKMAN PH Activity Meters, hand-held, with various electrodes.

Q) Thermocompensator, for PH meter, compensates for temperatures.

R) (2) THERMODYNE 24"x12" Hot Plates.

S) (4) V.W.R. 320 Stirrer Hot Plates.

T) Lab Glassware, including: Beakers, Test Tubes, Pipettes, Funnels, Etc.

ATCO 24'x12'x60' Fold-A-W
and personnel doors.
(3) Combo Shower/Eyewas
LINCOLN 225 Amp Electric
KFF Heavy Duty Drill Press
DAYTON Bench Grinder.
BLACK & DECKER Bench G
Acetylene Set, with tanks,
TOLEDO Platform Scale.
(2) Battery Chargers.
DAYTON Squirrel Cage Blov
DAYTON Wet/Dry Shop Vac
BLACK & DECKER Chop Sa
SKIL Saw.
MAKITA Angle Grinder.
BLACK & DECKER ½" Reve
MILWAUKEE 3/8" Drill.
BLACK & DECKER ¼" Drill.
Set of Hole Saws, for electr
Set of ½" Pipe Dies.
ACE Tap and Die Set.
Shop and Hand Tools.
Ladders, various lengths.
Wheelbarrow.
Hand Truck.
Barrel Pumps.
(2) Refrigerators.
Microwave.
Office Furniture.
(2) SQUARE D 3-Phase Trans
Switch Gear, for plant.
Electrical Wire and Compone
Electric Motor Parts.
PVC Pipe and Fittings.
Spool of Copper Wire.
Wheels and Tires.

EACH PIECE POSITIVELY SELLS TO THE HIGHES

NO BID-INS! NO BUY-BACKS! NO MINIMUM PR

INDEMNIFICATION AGREEMENT AND WAIVER

The undersigned, in consideration of the permission granted by A.F. Budge (Mining) Limited, (the "Indemnitee" herein), to the undersigned to enter upon the Vulture Mine Property, 14 miles south of Wickenburg, Maricopa County, Arizona (the "Property"), the undersigned to hereby agree as follows:

1. Indemnification

The undersigned hereby assume the risk of all damage, loss, costs and expense, and agree to indemnify and hold the Indemnitee harmless, including its officers, agents, and employees from and against any and all liability, damage, loss, cost and expense that may accrue to or be sustained by the undersigned on account of any claim, suit, or action made or brought against Indemnitee, its officers, agents or employees, for the death of or any injury to persons or destruction of property involving the undersigned, sustained in connection with the entrance and inspection of the Property arising from any cause whatsoever (including without limitation falls or injuries resulting from the condition of the land, mines, equipment and materials) except willful misconduct of Indemnitee or its employees acting within the scope of their employment.

2. Compliance With Laws and Safety

The undersigned agree that they will comply with all the Indemnitees' instructions, safety rules and all rules, regulations and legal standards while on the Property, including

the undersigned furnishing their own protective equipment such as hard hats, safety glasses, and/or any other personal protective equipment, as required.

3. Waiver and Release

The undersigned hereby waive all rights to make claim or file suit against Indemnitee for, and relieves Indemnitee from all liability or responsibility of any kind arising from, such damage, loss, cost or expense and the considerations received by the undersigned pursuant to the right to inspect said Property is complete satisfaction of all such damage, loss and other expense heretofore or hereafter sustained.

DATED this _____ day of _____, 198 ___.

SIGNED:

_____

Print Name Signature

_____

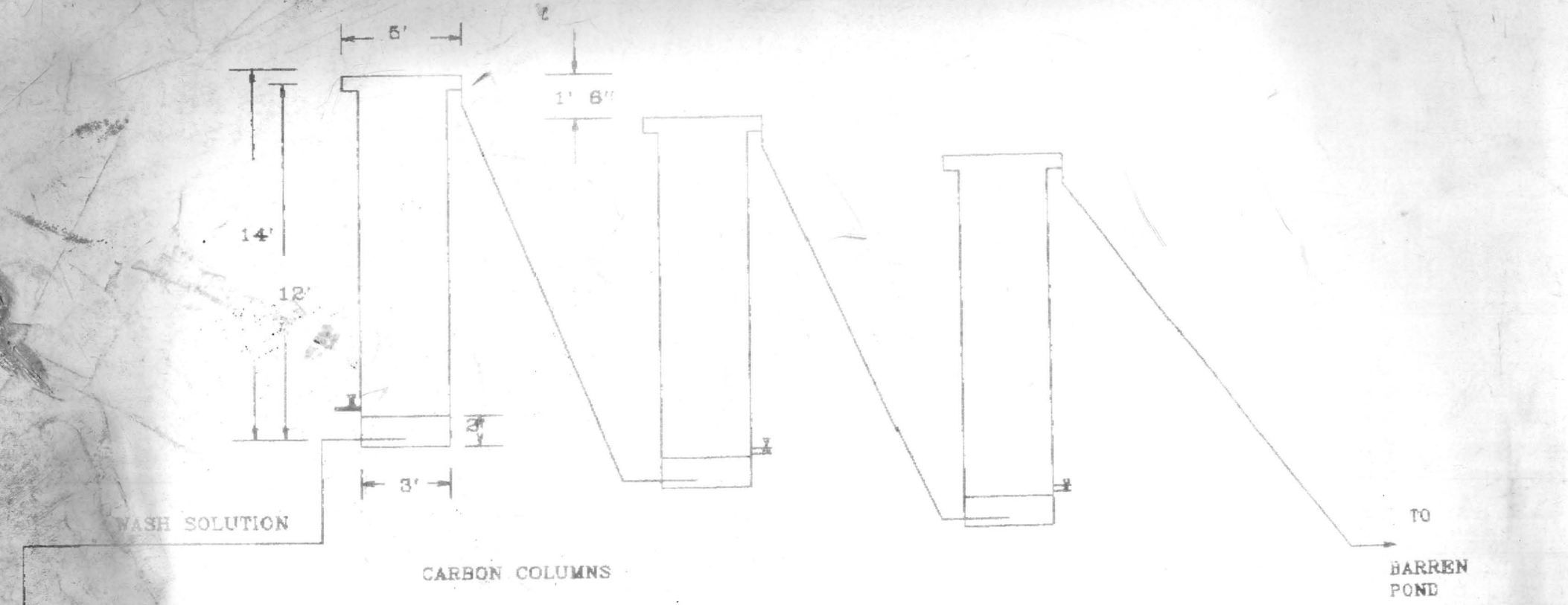
Print Name Signature

_____

Print Name Signature

_____

Print Name Signature



MILLSAPS MINERAL SERVICE, INC
3865 WASATCH BLVD. # 202
SALT LAKE CITY, UTAH 84109

A.F. BUDGE (MINING) LTD.
VULTURE PROJECT
CARBON ADSORPTION COLUMNS

NOV-16-89 THU 16:10 535 P.01

Memo

To: Ron Short, Dale Allen, Carole O'Brien

From: John McKenney

Date: April 2, 1989

Subject: Big Blue Mining Prospect

On March 30th, at the request of Dale Allen, I visited the "Big Blue Mine." Hause, an employee at the Vulture Mine accompanied me. This property is controlled by Hause and his father. The property consists of numerous lode and placer claims, all of which are believed to be unpatented. The claims are located in portions of Sections 13, 14, 15, 19, 24, 25 & 26, T9N, R3W shown on the Morgan Butte and Wagoner 7.5' quadrangles. They lie approximately 20 miles northeast of Wickenburg via Constellation and Buckhorn roads. Access is extremely poor, with numerous excessively steep grades, dry stream crossings and very slow, winding, dirt road. The main camp is located on the Hassayampa river with a few perennial springs located nearby. The topography is steep and rugged. No electricity is available. The area has no known history of any significant mining activity.

The claims under consideration lie in a predominately Pre-Cambrian granitic complex. Tertiary ? basalt flows overlie limited areas. Minor rhyolite and more mafic dikes were observed to cut steeply across some areas. These dikes are of some interest as argillic, hematitic and goethitic alteration was observed in one of these dikes. A steeply dipping fault containing some nice looking mineralized quartz veining was observed near the main camp. This structure is approximatley 10' wide where exposed and can be traced for at least several hundred feet. Samples were taken and I await the assay results. A small prospect shaft has been sunk on this structure for about 50' with very limited drifting reported along the vein structure. An undetermined quantity of reportedly "rich" placer gravel also exists within the claim block. Though not within this claim block but along the road to it, was observed what appeared to be a highly altered volcanic plug that may warrant further investigation. A prospect shaft has been sunk in this area.

Only a few hours were spent inspecting this property. A few days of reconnaissance geologic mapping and sampling of the more attractive mineralized areas are needed to fairly appraise this property. However, though some definite mineralized structures are contained within the boundries of this property, I do not feel it is of much interest to Budge Mining at this time. It's isolated location, unfavorable geologic setting and limited observed mineralization do not make it a very attractive exploration target.

Big Blue